TECHNICAL REPORT BRL-TR-2892

BRL

1938 — Serving the Army for Fifty Years — 1988

ANALYTIC SOLUTIONS TO THE CLOSED BOMB

FREDERICK W. ROBBINS
FRANZ R. LYNN

DTIC
SELECTED
MAY 1 0 1988
H

MARCH 1988

U.S. ARMY LABORATORY COMMAND

BALLISTIC RESEARCH LABORATORY
ABERDEEN PROVING GROUND, MARYLAND

88 5 09 144
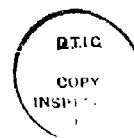
ADA194691

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION	1b RESTRICTIVE MARKINGS
Unclassified	

2a. SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION / AVAILABILITY OF REPORT
2b. DECLASSIFICATION / DOWNGRADING SCHEDULE	

4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S)
BRL-TR-2892	

6a. NAME OF PERFORMING ORGANIZATION	6b. OFFICE SYMBOL (If applicable)	7a. NAME OF MONITORING ORGANIZATION
	SLCBR-IB-A	

6c. ADDRESS (City, State, and ZIP Code)	7b. ADDRESS (City, State, and ZIP Code)
Aberdeen Proving Ground, MD 21005-5066	

8a. NAME OF FUNDING / SPONSORING ORGANIZATION	8b. OFFICE SYMBOL (If applicable)	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER

8c. ADDRESS (City, State, and ZIP Code)	10 SOURCE OF FUNDING NUMBERS

10 SOURCE OF FUNDING NUMBERS			
PROGRAM ELEMENT NO.	PROJECT NO.	TASK NO.	WORK UNIT ACCESSION NO.
62618A	1L162618AH80		

11. TITLE (Include Security Classification)

Analytic Solutions to the Closed Bomb

12. PERSONAL AUTHOR(S)

Frederick W. Robbins and Franz R. Lynn

13a. TYPE OF REPORT	13b. TIME COVERED	14. DATE OF REPORT (Year, Month, Day)	15. PAGE COUNT
Techaical Report	FROM 1985 TO 1986	1988 March	

16. SUPPLEMENTARY NOTATION

17.	COSATI CODES		18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	Closed Bomb, Closed Vessel, Burning Rate, Analytical Solution, Synthesizing Pressure Time
19	01		
21	02		

19. ABSTRACT (Continue on reverse if necessary and identify by block number)

Closed vessel tests are routinely performed to determine the linear burning rates of solid propellant for interior ballistic studies. Generation of synthetic pressure traces to simulate closed vessel firings is done to validate new burning rate reduction programs, test extensions to existing models, assess the sensitivity of computational algorithms to different methods of smoothing and differentiating the fundamental pressure data, and provide predictions for guiding the decisions of test engineers. These needs became acutely evident in the JANNAF-sponsored round robin on closed bomb methods when some easily communicated validation and comparison procedure would have been very useful. The general problem of synthesizing closed vessel pressure data can be simplified by means of a number of assumptions which then allow two closed-form finite solutions for a charge of single-perforated grains. Seven algebraic formulas are derived which permit easy computer calculation of the pressure, depth burned, mass burned, their respective derivatives, and instantaneous surface area which can then be used as input to a burning rate reduction

20. DISTRIBUTION / AVAILABILITY OF ABSTRACT	21 ABSTRACT SECURITY CLASSIFICATION
☐ UNCLASSIFIED/UNLIMITED ☒ SAME AS RPT ☒ DTIC USERS	Unclassified

22a. NAME OF RESPONSIBLE INDIVIDUAL	22b TELEPHONE (Include Area Code)	22c. OFFICE SYMBOL
Frederick W. Robbins	(301) 278-6201	SLCBR-IB-A

DD Form 1473, JUN 86   *Previous editions are obsolete*   SECURITY CLASSIFICATION OF THIS PAGE

UNCLASSIFIED

program. The first assumes the covolume equals the reciprocal of the density; the second removes this restriction.

TABLE OF CONTENTS

DTIC
COPY
INSPECTED

I. INTRODUCTION

Closed vessel tests are routinely performed to determine the linear burning rates of solid propellant for interior ballistic studies. There are several established techniques[1,2,3,4,5] for calculating burning rates from the experimentally recorded pressure-time data together with relevant properties of the test sample, igniter, and pressure vessel.

Generation of synthetic pressure traces to simulate closed vessel firings is done to validate new burning rate reduction programs, test extensions to existing models, assess the sensitivity of computational algorithms to different methods of smoothing and differentiating the fundamental pressure data, and provide predictions for guiding the decisions of test engineers. These needs became acutely evident in the JANNAF-sponsored round robin on closed bomb methods[6] when some easily communicated validation and comparison procedure would have been very useful.

The usual procedure[1,7] is the numerical integration of a burning rate law to yield the depth burned into the individual propellant grains of a charge with specified thermodynamic properties. The grain geometry determines burning surface area implying the mass-generation rate of combustion gases, which is in turn integrated. Once the mass of evolved gas is known, the energy equation and gas law yield the gas temperature and pressure at that instant. If $\dot{P}$ is required, it may either be found analytically from the gas law and energy equation or via numerical differentiation of the pressure.

Alternatively, the general problem of synthesizing closed vessel pressure data can be simplified by means of a number of assumptions which then allow two closed-form finite solutions for a charge of single-perforated grains as detailed below. Seven algebraic formulas are derived which permit easy computer calculation of the pressure, depth burned, mass burned, their respective derivatives, and instantaneous surface area which can then be used as input to a burning rate reduction program. The first assumes the covolume equals the reciprocal of the density; the second removes this restriction.

II. GLOSSARY OF SYMBOLS

a	constant grouping
b	constant grouping
c	constant grouping
d	initial perforation diameter of propellant grain
D	initial outer diameter of propellant grain
f	constant grouping
g	constant grouping
H	energy loss proportionality constant
k	constant grouping

L	initial length of propellant grain
m_a	mass of air
m_i	mass of igniter
m_p	mass of propellant burned at time t
m_{po}	original mass propellant
$\dot{m}_p$	mass-generation rate of propellant gases at time t
M	molecular weight of igniter and propellant gases
P	gas pressure at time t
P_{act}	actual maximum pressure with energy loss
P_{theo}	theoretical maximum pressure with no energy loss
$\dot{P}$	time-rate-of-change of pressure at time t
R	universal gas constant
S	burning surface area of the charge
t	elapsed time from ignition
T	flame temperature of propellant, igniter gases, and air
T_g	gas temperature
V(x)	volume of each propellant grain at distance burned x
V_b	volume of empty bomb
V_{free}	free volume for combustion gases
x	depth burned into each grain at time t
x_{ext}	depth burned at grain extinction
$\dot{x}$	linear burning rate at time t
α	exponent in burning rate law
β	coefficient in burning rate law
η	covolume of propellant and igniter gases
ρ	density of solid propellant

III. ASSUMPTIONS

A number of simplifying assumptions are made in order to render an analytic solution possible for a closed-form calculation. The propellant is taken to possess constant density, flame temperature, molecular weight, and covolume. The igniter material and air, if present, have the same molecular weight, flame temperature, heat capacity, and covolume as the propellant during combustion. Energy loss is considered as being proportional to the mass of propellant burned. The combustion gases are completely mixed, producing a uniform pressure and temperature throughout the bomb at all times related by the Noble-Abel equation of state. The propellant grains are identical single-perforated cylinders all the surfaces of which are ignited at t = 0 and burn uniformly thereafter

according to the linear burning rate law $\dot{x} = \beta P^{\alpha}$ with $\alpha = 1$. The igniter, by contrast, is all burned at $t = 0$.

IV. ANALYSIS

For a charge of identical single-perforated propellant grains of uniform density, the mass-fraction burned at depth x may be expressed as

$$\frac{m_p}{m_{po}} = \frac{V(0) - V(x)}{V(0)} \tag{4.01}$$

$$= \frac{1/4 \, \pi \, L \, (D^2 - d^2) - 1/4 \, \pi (L - 2x)[(D - 2x)^2 - (d + 2x)^2]}{1/4 \, \pi L \, (D^2 - d^2)}$$

that, upon rearrangement, yields

$$m_p = \frac{8m_{p_o}}{L(D - d)} \left[1/4 \, (D - d + 2L)x - x^2 \right] \tag{4.02}$$

or

$$m_p = a(2bx - x^2) \tag{4.03}$$

with the constant groupings

$$a \equiv \frac{8m_{p_o}}{L(D - d)} \tag{4.04}$$

and

$$b \equiv \frac{D - d + 2L}{8}$$

which is valid for depths burned over the range

7

$$0 \leqslant x \leqslant x_{ext} = \tfrac{1}{2}\min[L, \tfrac{1}{2}(D - d)].$$ (4.05)

We write the equation of state in the form

$$PV_{free} = (m_p + m_i + m_a)\,\frac{R}{M}\,T_g$$

where

$$V_{free} = V_b - m_{p_o}/\rho - m_p(\eta - 1/\rho) - m_i\eta - m_a\eta$$ (4.06)

with

$$T_g = (m_p + m_i + m_a - m_p H)\,T/(m_p + m_i + m_a).$$

The heat loss correction factor $m_p H$ is derived from

$$(m_p + m_i + m_a)\,c_v\,(T - T_g) = \text{heat loss}$$

where c_v is the heat capacity at constant volume

or

$$T_g = \frac{(m_p + m_i + m_a)\,c_v\,T - \text{heat loss}}{(m_p + m_i + m_a)c_v}.$$

Letting heat loss $= H\,c_v\,T\,m_p$

then

$$T_g = \frac{(m_p + m_i + m_a - m_p H)\,T}{(m_p + m_i + m_a)}.$$

Substituting T_g into the equation of state

$$PV_{free} = \frac{R}{M} T(m_p + m_i + m_a - m_p H).$$ (4.07)

Since the actual maximum pressure, P_{act}, occurs when all the propellant is burned the numerical value of H is obtained from (4.07) yielding

$$H = 1 - \{\frac{P_{act} M}{RT}(V_b - (m_{p_o} + m_i + m_a)\eta) - (m_i + m_a)\}/m_{p_o}$$

with $0 < P_{act} < P_{theo}.$ (4.08)

With our original assumptions, substitution of

$$\dot{x} = \beta P^a = \beta P,$$ (4.09)

(4.06) and (4.03) into (4.07) then produces the differential equation

$$\frac{\dot{x}}{\beta} [V_b - m_{p_o}/\rho - a(2bx - x^2)(\eta - 1/\rho) - (m_i + m_a)\eta]$$

$$= [m_i + m_a + a(2bx - x^2)(1 - H)] \frac{RT}{M}$$ (4.10)

subject to the initial condition $x=0$ at time $t=0$.

Further, the total burning surface area (that is, the product of the number of grains and the surface area per grain) is

$$S = \frac{m_{p_o}}{\rho V(0)} \cdot \{\pi(L - 2x)(D - 2x) + \pi(L - 2x)(d + 2x) + 2 \cdot \frac{1}{4} \pi \cdot$$ (4.11)

$$[(D - 2x)^2 - (d + 2x)^2]\}$$

or

9

$$S = \frac{2a}{\rho} (b - x)$$

with a and b given in (4.04).

V. FIRST SOLUTION: RESTRICTION ON THE COVOLUME

We can suppose that the increase in free volume due to the burning of the charge is just balanced by the covolume taken up by the combustion gases. That is, we assume

$$\eta = \frac{1}{\rho}. \tag{5.01}$$

In this case we can simplify and rearrange (4.10) to produce

$$\dot{x} = \frac{\beta RT \ a \ (1 - H)}{M[V_b - m_{p_0}/\rho - (m_i + m_a)\eta]} \left[\frac{m_i + m_a}{a(1-H)} + 2bx - x^2 \right]$$

or

$$\dot{x} = k\left[c^2 - (x - b)^2 \right] \tag{5.02}$$

for the constant groupings

$$k \equiv \frac{\beta RT \ a \ (1 - H)}{M[V_b - m_{p_0}/\rho - (m_i + m_a) \ \eta]}$$

and

$$c^2 \equiv b^2 + \frac{m_i + m_a}{a(1 - H)} . \tag{5.03}$$

Making the substitution $u = x-b$ implies

$$\dot{u} = k\left[c^2 - u^2 \right]$$

or

$$\frac{du}{c^2 - u^2} = k \ dt, \tag{5.04}$$

10

the left hand side of which is a standard form once we observe that

$$b = \tfrac{1}{4} \left[\tfrac{1}{2} (D - d) + L \right] \geqslant \tfrac{1}{4} \cdot 2 \, \min \left[L, \tfrac{1}{2} (D - d) \right] = x_{ext} \geqslant x \qquad (5.05)$$

which guarantees that

$$c > b \geqslant b - x = |x - b| = |u| \geqslant 0 \qquad (5.06)$$

so that

$$c^2 > u^2.$$

Then the solution is

$$\frac{1}{2c} \cdot \ln \left[\frac{c + u}{c - u} \right] = kt + C_1$$

$$\frac{c - b + x}{c + b - x} = C_2 e^{2kct}. \qquad (5.07)$$

But the required initial condition x=0 at time t=0 forces the integration constant

$$C_2 = \frac{c - b}{c + b} \qquad (5.08)$$

which, when substituted into (5.07) produces, after some rearrangement,

$$x = \frac{e^{2kct} - 1}{\dfrac{1}{c - b} + \dfrac{1}{c + b} \, e^{2kct}} \qquad (5.09)$$

which is valid for all times t such that

11

$$0 < t < \frac{1}{2kc} \cdot \ln\left[\frac{c + b}{c - b} \cdot \frac{c - b + x_{ext}}{c + b - x_{ext}}\right]. \tag{5.10}$$

Once the special constant groupings have been computed, calculations at any time t in the above range proceed as follows. The depth burned, x, is found from (5.09), the linear burning rate, $\dot{x}$, from (5.02), the pressure, P, from (4.09), surface area, S, from (4.11), and the mass of propellant burned, m_p, from (4.03). We differentiate (4.09) in conjunction with (5.02) to determine $\dot{P}$

$$\dot{P} = \frac{\ddot{x}}{\beta} = \frac{-2k}{\beta}(x - b)\dot{x} \tag{5.11}$$

and differentiate (4.03) to determine $\dot{m}_p$

$$\dot{m}_p = 2a(b - x)\dot{x}. \tag{5.12}$$

VI. SECOND SOLUTION: THE GENERAL COVOLUME

If we place no restrictions on the covolume we can simplify (4.10) to

$$\frac{\dot{x} \, a(n - 1/\rho)}{\beta}\left[\frac{V_b - m_{p_o}/\rho - (m_i + m_a)n}{a(n - 1/\rho)} - 2bx + x^2\right]$$

$$= \frac{RT \, a(1 - \eta)}{M}\left[\frac{m_i + m_a}{a(1 - \eta)} + 2b \, x - x^2\right]$$

or

$$\dot{x}\left[f + (x - b)^2\right] = g\left[c^2 - (x - b)^2\right] \tag{6.01}$$

for the constant groupings

12

$$f \equiv \frac{V_b - m_{p_o}/\rho - (m_i + m_a)\,\eta}{a(\eta - 1/\rho)} - b^2$$

and

$$g \equiv \frac{\beta RT(1 - H)}{M(\eta - 1/\rho)}. \tag{6.02}$$

As in the previous case, we make the substitution $u = x - b$ and solve the resulting standard form thusly

$$\dot{u}\left[\frac{f + u^2}{c^2 - u^2}\right] = g$$

$$\left[\frac{f + c^2}{c^2 - u^2} - 1\right]du = g\,dt$$

$$(f + c^2)\frac{1}{2c} \cdot \ln\left[\frac{c + u}{c - u}\right] - u = gt + c_3$$

$$\frac{f + c^2}{2c} \cdot \ln\left[\frac{c - b + x}{c + b - x}\right] - x + b = gt + c_3 . \tag{6.03}$$

Imposition of the initial condition $x=0$ at time $t=0$ forces the integration constant

$$c_3 = \frac{f + c^2}{2c} \cdot \ln\left[\frac{c - b}{c + b}\right] + b \tag{6.04}$$

so that elapsed time may be expressed as a function of depth burned

$$t = \frac{f + c^2}{2cg} \cdot \ln\left[\frac{c - b + x}{c + b - x} \cdot \frac{c + b}{c - b}\right] - \frac{x}{g} \tag{6.05}$$

for any x up to x_{ext}. Because it is not possible to solve this equation for x as a function of t in a finite closed form, this method cannot be used in applications where a constant time between consecutive points is a requirement unless we are willing to iterate (6.05) with successive approximations to x.

13

Once the constant groupings have been computed, calculations at any depth burned x in the allowed range proceed as follows. The elapsed time, t, is found from (6.05), the linear burning rate, $\dot{x}$, from (6.01), the pressure, P, from (4.09), surface area, S, from (4.11), the mass of propellant burned, m_p, from (4.03), and the mass-generation rate, $\dot{m}$, from (5.12). We differentiate (4.09) in conjunction with (6.01) to determine $\dot{P}$

$$\dot{P} = \frac{\ddot{x}}{\beta} = \frac{-2g(f + c^2)}{\beta} \cdot \frac{(x - b)\dot{x}}{[f + (x - b)^2]^2}. \tag{6.06}$$

VII. VALIDATION CHECK OF THE GENERAL COVOLUME ANALYSIS

In Appendix A a FORTRAN listing is provided which incorporates solution techniques for both the restriction on the covolume and the general covolume (with an iterative procedure to get constant-time increments). A sample problem is also provided which was run with the general covolume solution technique with no heat loss. The output can be compared to the same run on IBHVG2[8] (a lumped parameter interior ballistic computer code) which is provided in Appendix B. As can be seen, all eight calculated variables are the same, as they should be, within the print accuracy of the computer codes. Similar runs and comparisons have been performed for the restriction on the covolume analysis with the same excellent agreement with IBHVG2.

VIII. REFERENCES

1. F. W. Robbins and A. W. Horst, "Numerical Simulation of Closed Bomb Performance Based on BLAKE Code Thermodynamic Data," IHMR 76-259, Naval Ordnance Station, Indian Head, MD, November 1976.

2. G. Price and A. Juhasz, "A Versatile User-Oriented Closed Bomb Data Reduction Program (CBRED)," BRLR 2018, Ballistic Research Laboratory, Aberdeen Proving Ground, MD, September 1977.

3 A. Pallington and M. Weinstein, "Method of Calculation of Interior Ballistic Properties of Propellants from Closed Bomb Data," TR 2005, Picatinny Arsenal, Dover, NJ, June 1954.

4. W. Wallace, "New Formulas for Rapid Calculation of Linear Burning Rates of Solid Propellants," TR 2488, Picatinny Arsenal, Dover, NJ, April 1958.

5. A. Celmins, "Solid Propellant Burning Rate Measurement in a Closed Bomb," Combustion and Flame, Vol. 23, 1974, pp. 381-397.

6. A. A. Juhasz (ed.), "Round Robin Results of the Closed Bomb and Strand Burner," CPIA Publication 361, The Johns Hopkins University, Laurel, MD, July 1982.

7. F. Hunt and H. Hinds, "Internal Ballistics," Philosophical Library, NY, 1951, pp. 53-66.

8. R. D. Anderson and K. D. Fickie, "IBHVG2 -- A User's Guide," BRLTR-2829, Ballistic Research Laboratory, Aberdeen Proving Ground, MD, July 1987.

APPENDIX A
FORTRAN LISTING OF BOTH ANALYSES
AND A TEST COMPUTER RUN OF GENERAL COVOLUME ANALYSIS

```
C
CCCCCCCCCCCCCCCCCCCCCC**
C
C  METHOD DUE TO WORK BY  F. W. ROBBINS  &  F. LYNN
C  DATE COMPLETED : OCTOBER 22, 1986
C
CCCCCCCCCCCCCCCCCCCCCC**
C
       PROGRAM SPERF
C
CCCCCCCCCCCCCCCCCCCCCC**
C
C A SERIES OF SUBROUTINES TO CALCULATE, FROM A CLOSED BOMB
C SOLUTION, THE PRESSURE-TIME CURVE FOR A CLOSED BOMB.
C ASSOCIATED VARIABLES CALCULATED ARE DISTANCE BURNT, BURNING
C RATE, DP/DT, MASS BURNT, DM/DT, AND THE SURFACE AREA.
C THERE ARE TWO POSSIBLE SOLUTIONS :
C
C      SOLN1 --> COVOLUME = 1/DENSITY,
C
C      SOLN2 --> COVOLUME <> DENSITY, BUT AN ITERATIVE
C                PROCEDURE IS REQUIRED TO GET TIME AND
C                PRESSURE AT A CONSTANT DELTA T
C
C ANALYSIS ASSUMES A SINGLE PERFORATED GRAIN WITH AN IGNITOR
C (ALL BURNT AT TIME = 0) WITH OR WITHOUT AIR OR HEAT LOSS
C (AIR AND THE IGNITOR HAVE THE SAME THERMOCHEMISTRY AS THE
C PROPELLANT. A  BP^N  BURNING RATE LAW IS ASSUMED WITH N = 1.
C
CCCCCCCCCCCCCCCCCCCCCC**
        IMPLICIT DOUBLE PRECISION (A-H,O-Z)

C
       COMMON /SPECS/ BIGD,D,EL,EMI,EMP0,EMW,VB,BETA,R,TF,RHO,
      + ETA,PACT,EMAIR
       COMMON METHOD
       CHARACTER HH*1
       DATA HH/Z'0C'/
       DATA NINP/7/,NOUT/8/,TOL/1.0E-04/
C
CCCCCCCCCCCCCCCCCCCCCC**
C
C THE INPUT VARIABLES ARE :
C BIGD - OUTER GRAIN DIAMETER
C D - PERFORATION DIAMETER
C EL - GRAIN LENGTH
C EMI - MASS OF THE IGNITOR
C EMP0 - MASS OF THE PROPELLANT
C EMW - MOLECULAR WEIGHT
C VB - VOLUME OF THE BOMB
C BETA - BURNING RATE COEFFICIENT
C TF - FLAME TEMPERATURE
C RHO - DENSITY OF PROPELLANT
C ETA - COVOLUME (IF ETA <= 0 OR 1/RHO, SOLN1 IS USED)
C EMAIR - MASS OF AIR
```

```fortran
C PACT - ACTUAL MAXIMUM PRESSURE
C (USED TO DETERMINE HEAT LOSS; IF <= 0, HEAT LOSS
C  NOT CONSIDERED)
C R - UNIVERSAL GAS CONSTANT
C (USED TO CORRECT FOR UNITS
C  R = 33378.926 IN-LB F/LB MOLE DEGREE K
C  DIMENSIONS OF GRAIN IN INCHES, BURNING RATE
C  IN INCHES/SEC, WEIGHT IN POUNDS, VOLUME IN
C  CUBIC INCHES, FLAME TEMPERATURE IN DEGREE K,
C  DENSITY IN POUNDS/CUBIC INCH, COVOLUME IN
C  CUBIC INCHES/POUND AND PRESSURE IN POUNDS/
C  SQUARE INCH).
C
CCCCCCCCCCCCCCCCCCCCCCCC**
C
          OPEN(7,FILE='ENTER',STATUS='OLD')
          OPEN(8,FILE='OUTSYN',STATUS='NEW')
          REWIND(7)
          REWIND(8)
        READ (NINP,*) BIGD,D,EL,EMI,EMPO,EMW,VB,BETA
        READ (NINP,*) TF,RHO,ETA,EMAIR,PACT,R
        WRITE(NOUT,99)HH
        WRITE (NOUT,100) BIGD,D,EL,EMI,EMPO,EMW,VB,BETA,TF,
       +   RHO,ETA,EMAIR,PACT,R
        METHOD = 2
        TESTR = 1.0/RHO
C
C METHOD = 1 FOR SOLN1 (COVOLUME = 1/DENSITY)
C METHOD = 2 FOR SOLN2 (COVOLUME <> 1/DENSITY)
C
        IF ( ABS( ETA - TESTR ) .LT. TOL )  METHOD = 1
        IF ( ETA .LT. TOL )  METHOD = 1
        CALL SBOMB
     99 FORMAT(A1)
    100 FORMAT (1X,26HGRAIN DIAMETER=               ,F20.6,/1X,
       +            26HPERFORATION DIAMETER=         ,F20.6,/1X,
       +            26HGRAIN LENGTH=                 ,F20.6,/1X,
       +            26HIGNITOR MASS=                 ,F20.6,/1X,
       +            26HPROPELLANT MASS=              ,F20.6,/1X,
       +            26HMOLECULAR WEIGHT=             ,F20.6,/1X,
       +            26HBOMB VOLUME=                  ,F20.6,/1X,
       +            26HBURNING RATE COEFFICIENT= ,F20.6,/1X,
       +            26HFLAME TEMPERATURE=            ,F20.6,/1X,
       +            26HDENSITY=                      ,F20.6,/1X,
       +            26HCOVOLUME=                     ,F20.6,/1X,
       +            26HAIR MASS=                     ,F20.6,/1X,
       +            26HACTUAL MAXIMUM PRESSURE=  ,F20.6,/1X,
       +            26HUNIVERSAL GAS CONSTANT=   ,F20.6//)
          CLOSE(7)
          CLOSE(8)
         END
C
C
         SUBROUTINE SBOMB
           IMPLICIT DOUBLE PRECISION (A-H,O-Z)
```

20

```fortran
      COMMON /SPECS/ BIGD,D,EL,EMI,EMP0,EMW,VB,BETA,R,TF,RHO,
     + ETA,PACT,EMAIR
      COMMON /CALCS/ T,TEXT,X,XEXT,XDOT,P,PDOT,EMP,EMPDOT,S
      COMMON METHOD
      CHARACTER HH*1
      DATA NSTEP/1200/,ERROR/1.0E-7/,NOUT/8/
      DATA MAXLIN /54/,HH/Z'0C'/
      LCOUNT = 1
      X = 0
      T = 0
      IF (METHOD .EQ. 1) GOTO 10
C
C INITIALIZE CONSTANTS
C
      CALL SOLN2 (0)
      GOTO 20
C
C INITIALIZE CONSTANTS
C
   10 CALL SOLN1 (0)
   20 CONTINUE
      WRITE(NOUT,98)HH
      WRITE(NOUT,101)
C
C GET DELTA T
C
      DELT = TEXT/NSTEP
C
C GET INITIAL GUESS FOR DISTANCE BURNT FOR
C USE IF METHOD = 2
C
      X = XEXT/NSTEP
      DO 30 I = 1,NSTEP
      IF (METHOD .NE. 1) GOTO 100
C
C USE METHOD 1
C
      T = I*DELT
      CALL SOLN1 (I)
      GOTO 200
  100 CONTINUE
C
C USE METHOD 2 WITH NEWTON-RAPHSON ITERATIVE PROCEDURE
C
      CALL SOLN2 (I)
      IF (ABS(1.0-T/(I*DELT)) .LT. ERROR) GOTO 200
      X = X-(T-I*DELT)*XDOT
      IF (X .LT. 0.0) X = (X+(T-I*DELT)*XDOT)/10.
      GOTO 100
  200 CONTINUE
      IF (LCOUNT .LE. MAXLIN) GOTO 5
      WRITE(NOUT,98)HH
      WRITE(NOUT,101)
      LCOUNT = 1
    5 CONTINUE
```

21

```
          WRITE (NOUT,99) T,P,PDOT,XDOT,EMP,EMPDOT,S,X
          LCOUNT = LCOUNT + 1
   30 CONTINUE
   98 FORMAT(A1)
   99 FORMAT (1X,8E12.5)
  101 FORMAT (5X,4HTIME,6X,8HPRESSURE,6X,4HPDOT,8X,
     +            4HXDOT,2X,16HPROPELLANT BURNT,2X,4HMDOT,
     +            7X,7HSURFACE,2X,14HDISTANCE BURNT//)
      RETURN
      END
C
C
C
C
      SUBROUTINE SOLN1(IPASS)
         IMPLICIT DOUBLE PRECISION (A-H,O-Z)
      COMMON /SPECS/ BIGD,D,EL,EMI,EMP0,EMW,VB,BETA,R,TF,RHO,
     + ETA,PACT,EMAIR
      COMMON /CALCS/ T,TEXT,X,XEXT,XDOT,P,PDOT,EMP,EMPDOT,S
      COMMON METHOD
      DATA NOUT/8/
C
C SOLUTION METHOD 1 --> COVOLUME = 1/DENSITY
C
      IF(IPASS.GT.0) GOTO 100
C
C
C INITIALIZE CONSTANTS, SET COVOLUME <-- 1/DENSITY
C
      ETA=1.0/RHO
      A=8.0*EMP0/(EL*(BIGD-D))
      B=(BIGD-D+2.0*EL)/8.0
C
C CALCULATE THEORETICAL MAXIMUM PRESSURE
C (NO ENERGY LOSS)
C
      PTHEO=(EMP0+EMI+EMAIR)*R*TF/EMW/(VB-(EMP0+EMI+EMAIR)*ETA)
      WRITE (NOUT,79) PTHEO
C
C DETERMINE IF HEAT LOSS IS TO BE CONSIDERED
C
      IF (PACT .LE. 1.E-8) PACT = PTHEO
C
C CALCULATE HEAT LOSS FACTOR
C
      H=1.0-(PACT*EMW*(VB-(EMP0+EMI+EMAIR)*ETA)/(R*TF)-
     +  (EMI+EMAIR))/EMP0
      XK=BETA*R*TF*A*(1.-H)/(EMW*(VB-EMP0/RHO-(EMI+EMAIR)*ETA))
      C=SQRT(B**2+(EMI+EMAIR)/(A*(1.-H)))
C
C CALCULATE DEPTH BURNED AT TIME OF GRAIN EXTINCTION
C
      XEXT=0.5*DMIN1(EL,0.5*(BIGD-D))
C
C CALCULATE TIME OF GRAIN EXTINCTION
```

22

```fortran
C
      TEXT=1.0/(2.0*XK*C)*DLOG((C**2-B**2+XEXT*(C+B))/
     $ (C**2-B**2-XEXT*(C-B)))
      WRITE(NOUT,77) H
      WRITE(NOUT,78) METHOD
      WRITE(7,77) H
      WRITE(7,78) METHOD
C
C                      CALCULATE VARIABLES
C
C DISTANCE BURNED
C
  100 X=(EXP(2.0*XK*C*T)-1.0)/(1.0/(C-B)+1.0/(C+B)*EXP(2.0*XK*C*T))
C
C BURNING RATE
C
      XDOT=XK*(C**2-(X-B)**2)
C
C PRESSURE
C
      P=XDOT/BETA
C
C RATE OF CHANGE OF PRESSURE
C
      PDOT=-2.0*XK/BETA*(X-B)*XDOT
C
C MASS PROPELLANT BURNT
C
      EMP=A*(2.0*B*X-X**2)
C
C RATE OF CHANGE OF MASS OF PROPELLANT
C
      EMPDOT=2.0*A*(B-X)*XDOT
C
C SURFACE
C
      S=2.*A*(B-X)/RHO
C
   77 FORMAT (1X,20HHEAT LOSS FACTOR -- ,F10.7)
   78 FORMAT (1X,10HMETHOD -- ,I1)
   79 FORMAT (1X,29HTHEORETICAL MAXIMUM PRESSURE ,E20.14)
      RETURN
      END
C
C
      SUBROUTINE SOLN2(IPASS)
        IMPLICIT DOUBLE PRECISION (A-H,O-Z)
      COMMON /SPECS/ BIGD,D,EL,EMI,EMP0,EMW,VB,BETA,R,TF,RHO,
     + ETA,PACT,EMAIR
      COMMON /CALCS/ T,TEXT,X,XEXT,XDOT,P,PDOT,EMP,EMPDOT,S
      COMMON METHOD
      DATA NOUT/8/
C
C SOLUTION METHOD 2 --> COVOLUME <> 1/DENSITY
```

23

```
C
      IF(IPASS.GT.0) GOTO 100
C
C INITIALIZE CONSTANTS
C
      A=8.0*EMP0/(EL*(BIGD-D))
      B=(BIGD-D+2.0*EL)/8.0
C
C CALCULATE THEORETICAL MAXIMUM PRESSURE
C (NO ENERGY LOSS)
C
      PTHEO=(EMP0+EMI+EMAIR)*R*TF/EMW/(VB-(EMP0+EMI+EMAIR)*ETA)
      WRITE (NOUT,79) PTHEO
C
C DETERMINE IF HEAT LOSS IS TO BE CONSIDERED
C
      IF (PACT .LE. 1.E-8) PACT = PTHEO
C
C EVALUATE HEAT LOSS FACTOR
C
      H=1.-(PACT*EMW*(VB-(EMP0+EMI+EMAIR)*ETA)/(R*TF)-(EMI+EMAIR))/EMP0
      C=SQRT(B**2+(EMI+EMAIR)/(A*(1.-H)))
      F=(VB-EMP0/RHO-(EMI+EMAIR)*ETA)/(A*(ETA-1.0/RHO))-B**2
      G=BETA*R*TF*(1.-H)/(EMW*(ETA-1.0/RHO))
C
C CALCULATE DEPTH BURNED AT TIME OF GRAIN EXTINCTION
C
      XEXT=0.5*DMIN1(EL,0.5*(BIGD-D))
C
C CALCULATE TIME OF GRAIN EXTINCTION
C
      TEXT=(F+C**2)/(2.0*C*G)*DLOG((C**2-B**2+XEXT*(C+B))/
     $ (C**2-B**2-XEXT*(C-B)))-XEXT/G
      WRITE(NOUT,77) H
      WRITE(NOUT,78) METHOD
C
C                    CALCULATE VARIABLES
C
C TIME
C
  100 T=(F+C**2)/(2.0*C*G)*DLOG((C**2-B**2+X*(C+B))/
     $ (C**2-B**2-X*(C-B)))-X/G
C
C BURNING RATE
C
      XDOT=G*(C**2-(X-B)**2)/(F+(X-B)**2)
C
C PRESSURE
C
      P=XDOT/BETA
C
C RATE OF CHANGE OF PRESSURE
C
      PDOT=-2.0*G*(F+C**2)*(X-B)*XDOT/(BETA*(F+(X-B)**2)**2)
C
```

24

```fortran
C MASS PROPELLANT BURNED
C
      EMP=A*(2.0*B*X-X**2)
C
C RATE OF CHANGE OF MASS OF PROPELLANT
C
      EMPDOT=2.0*A*(B-X)*XDOT
C
C SURFACE
C
      S=2.*A*(B-X)/RHO
C
   77 FORMAT (1X,20HHEAT LOSS FACTOR -- ,F10.7)
   78 FORMAT (1X,10HMETHOD -- ,I1)
   79 FORMAT (1X,29HTHEORETICAL MAXIMUM PRESSURE ,E20.14)
      RETURN
      END
```

```
GRAIN DIAMETER=                    0.250000
PERFORATION DIAMETER=              0.050000
GRAIN LENGTH=                      1.000000
IGNITOR MASS=                      0.000200
PROPELLANT MASS=                   0.125000
MOLECULAR WEIGHT=                 28.000000
BOMB VOLUME=                      12.510000
BURNING RATE COEFFICIENT=          0.002000
FLAME TEMPERATURE=              3400.000000
DENSITY=                           0.060000
COVOLUME=                         25.000000
AIR MASS=                          0.000000
ACTUAL MAXIMUM PRESSURE=       54099.685000
UNIVERSAL GAS CONSTANT=        33378.926000


THEORETICAL MAXIMUM PRESSURE 0.54099684814499E+05
HEAT LOSS FACTOR --  0.0000000
METHOD -- 2
```

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.25398E-05	0.78207E+02	0.16731E+06	0.15641E+00	0.10895E-05	0.43014E+00	0.45833E+02	0.39618E-06
0.50796E-05	0.78633E+02	0.16823E+06	0.15727E+00	0.21849E-05	0.43248E+00	0.45833E+02	0.79453E-06
0.76194E-05	0.79062E+02	0.16914E+06	0.15812E+00	0.32864E-05	0.43484E+00	0.45833E+02	0.11950E-05
0.10159E-04	0.79492E+02	0.17006E+06	0.15898E+00	0.43938E-05	0.43721E+00	0.45833E+02	0.15977E-05
0.12699E-04	0.79925E+02	0.17099E+06	0.15985E+00	0.55072E-05	0.43959E+00	0.45833E+02	0.20026E-05
0.15239E-04	0.80361E+02	0.17192E+06	0.16072E+00	0.66267E-05	0.44198E+00	0.45833E+02	0.24097E-05
0.17779E-04	0.80799E+02	0.17286E+06	0.16160E+00	0.77523E-05	0.44439E+00	0.45833E+02	0.28190E-05
0.20318E-04	0.81239E+02	0.17380E+06	0.16248E+00	0.88840E-05	0.44681E+00	0.45833E+02	0.32306E-05
0.22858E-04	0.81682E+02	0.17475E+06	0.16336E+00	0.10022E-04	0.44924E+00	0.45833E+02	0.36444E-05
0.25398E-04	0.82127E+02	0.17570E+06	0.16425E+00	0.11166E-04	0.45169E+00	0.45833E+02	0.40604E-05
0.27938E-04	0.82574E+02	0.17666E+06	0.16515E+00	0.12316E-04	0.45415E+00	0.45833E+02	0.44787E-05
0.30478E-04	0.83024E+02	0.17762E+06	0.16605E+00	0.13473E-04	0.45662E+00	0.45833E+02	0.48993E-05
0.33018E-04	0.83476E+02	0.17859E+06	0.16695E+00	0.14636E-04	0.45911E+00	0.45832E+02	0.53222E-05
0.35557E-04	0.83931E+02	0.17956E+06	0.16786E+00	0.15805E-04	0.46161E+00	0.45832E+02	0.57474E-05
0.38097E-04	0.84388E+02	0.18054E+06	0.16878E+00	0.16981E-04	0.46413E+00	0.45832E+02	0.61749E-05
0.40637E-04	0.84848E+02	0.18152E+06	0.16970E+00	0.18163E-04	0.46665E+00	0.45832E+02	0.66047E-05
0.43177E-04	0.85311E+02	0.18251E+06	0.17062E+00	0.19351E-04	0.46920E+00	0.45832E+02	0.70369E-05
0.45717E-04	0.85775E+02	0.18351E+06	0.17155E+00	0.20546E-04	0.47175E+00	0.45832E+02	0.74714E-05
0.48256E-04	0.86243E+02	0.18451E+06	0.17249E+00	0.21747E-04	0.47432E+00	0.45832E+02	0.79083E-05
0.50796E-04	0.86713E+02	0.18551E+06	0.17343E+00	0.22955E-04	0.47690E+00	0.45832E+02	0.83475E-05
0.53336E-04	0.87185E+02	0.18652E+06	0.17437E+00	0.24170E-04	0.47950E+00	0.45832E+02	0.87892E-05
0.55876E-04	0.87660E+02	0.18754E+06	0.17532E+00	0.25391E-04	0.48211E+00	0.45832E+02	0.92333E-05
0.58416E-04	0.88138E+02	0.18856E+06	0.17628E+00	0.26619E-04	0.48474E+00	0.45832E+02	0.96798E-05
0.60955E-04	0.88618E+02	0.18959E+06	0.17724E+00	0.27853E-04	0.48738E+00	0.45832E+02	0.10129E-04
0.63495E-04	0.89101E+02	0.19062E+06	0.17820E+00	0.29095E-04	0.49003E+00	0.45832E+02	0.10580E-04
0.66035E-04	0.89586E+02	0.19166E+06	0.17917E+00	0.30343E-04	0.49270E+00	0.45831E+02	0.11034E-04
0.68575E-04	0.90074E+02	0.19270E+06	0.18015E+00	0.31597E-04	0.49539E+00	0.45831E+02	0.11490E-04
0.71115E-04	0.90565E+02	0.19375E+06	0.18113E+00	0.32859E-04	0.49809E+00	0.45831E+02	0.11949E-04
0.73654E-04	0.91058E+02	0.19481E+06	0.18212E+00	0.34128E-04	0.50080E+00	0.45831E+02	0.12410E-04
0.76194E-04	0.91555E+02	0.19587E+06	0.18311E+00	0.35403E-04	0.50353E+00	0.45831E+02	0.12874E-04
0.78734E-04	0.92053E+02	0.19694E+06	0.18411E+00	0.36685E-04	0.50627E+00	0.45831E+02	0.13340E-04
0.81274E-04	0.92555E+02	0.19801E+06	0.18511E+00	0.37975E-04	0.50903E+00	0.45831E+02	0.13809E-04
0.83814E-04	0.93059E+02	0.19909E+06	0.18612E+00	0.39271E-04	0.51180E+00	0.45831E+02	0.14281E-04
0.86354E-04	0.93566E+02	0.20018E+06	0.18713E+00	0.40574E-04	0.51459E+00	0.45831E+02	0.14755E-04
0.88893E-04	0.94076E+02	0.20127E+06	0.18815E+00	0.41885E-04	0.51739E+00	0.45831E+02	0.15231E-04
0.91433E-04	0.94589E+02	0.20236E+06	0.18918E+00	0.43202E-04	0.52021E+00	0.45831E+02	0.15710E-04
0.93973E-04	0.95104E+02	0.20347E+06	0.19021E+00	0.44527E-04	0.52304E+00	0.45831E+02	0.16192E-04
0.96513E-04	0.95622E+02	0.20457E+06	0.19124E+00	0.45859E-04	0.52589E+00	0.45831E+02	0.16677E-04
0.99053E-04	0.96143E+02	0.20569E+06	0.19229E+00	0.47199E-04	0.52875E+00	0.45830E+02	0.17164E-04
0.10159E-03	0.96667E+02	0.20681E+06	0.19333E+00	0.48545E-04	0.53163E+00	0.45830E+02	0.17653E-04
0.10413E-03	0.97194E+02	0.20794E+06	0.19439E+00	0.49899E-04	0.53453E+00	0.45830E+02	0.18146E-04
0.10667E-03	0.97723E+02	0.20907E+06	0.19545E+00	0.51260E-04	0.53744E+00	0.45830E+02	0.18641E-04
0.10921E-03	0.98256E+02	0.21021E+06	0.19651E+00	0.52629E-04	0.54037E+00	0.45830E+02	0.19139E-04
0.11175E-03	0.98791E+02	0.21135E+06	0.19758E+00	0.54005E-04	0.54331E+00	0.45830E+02	0.19639E-04
0.11429E-03	0.99329E+02	0.21251E+06	0.19866E+00	0.55389E-04	0.54627E+00	0.45830E+02	0.20142E-04
0.11683E-03	0.99871E+02	0.21366E+06	0.19974E+00	0.56780E-04	0.54925E+00	0.45830E+02	0.20648E-04
0.11937E-03	0.10041E+03	0.21483E+06	0.20083E+00	0.58179E-04	0.55224E+00	0.45830E+02	0.21157E-04
0.12191E-03	0.10096E+03	0.21600E+06	0.20192E+00	0.59585E-04	0.55525E+00	0.45830E+02	0.21668E-04
0.12445E-03	0.10151E+03	0.21718E+06	0.20302E+00	0.60999E-04	0.55827E+00	0.45830E+02	0.22183E-04
0.12699E-03	0.10206E+03	0.21836E+06	0.20413E+00	0.62421E-04	0.56131E+00	0.45830E+02	0.22700E-04
0.12953E-03	0.10262E+03	0.21955E+06	0.20524E+00	0.63851E-04	0.56437E+00	0.45829E+02	0.23219E-04
0.13207E-03	0.10318E+03	0.22075E+06	0.20636E+00	0.65288E-04	0.56744E+00	0.45829E+02	0.23742E-04
0.13461E-03	0.10374E+03	0.22195E+06	0.20748E+00	0.66733E-04	0.57053E+00	0.45829E+02	0.24268E-04
0.13715E-03	0.10431E+03	0.22316E+06	0.20862E+00	0.68186E-04	0.57364E+00	0.45829E+02	0.24796E-04

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.13969E-03	0.10488E+03	0.22437E+06	0.20975E+00	0.69647E-04	0.57676E+00	0.45829E+02	0.25327E-04
0.14223E-03	0.10545E+03	0.22560E+06	0.21089E+00	0.71116E-04	0.57991E+00	0.45829E+02	0.25862E-04
0.14477E-03	0.10602E+03	0.22683E+06	0.21204E+00	0.72593E-04	0.58306E+00	0.45829E+02	0.26399E-04
0.14731E-03	0.10660E+03	0.22806E+06	0.21320E+00	0.74078E-04	0.58624E+00	0.45829E+02	0.26939E-04
0.14985E-03	0.10718E+03	0.22930E+06	0.21436E+00	0.75571E-04	0.58943E+00	0.45829E+02	0.27482E-04
0.15239E-03	0.10776E+03	0.23055E+06	0.21553E+00	0.77072E-04	0.59264E+00	0.45829E+02	0.28028E-04
0.15493E-03	0.10835E+03	0.23181E+06	0.21670E+00	0.78581E-04	0.59587E+00	0.45829E+02	0.28576E-04
0.15747E-03	0.10894E+03	0.23307E+06	0.21788E+00	0.80099E-04	0.59912E+00	0.45828E+02	0.29128E-04
0.16001E-03	0.10954E+03	0.23434E+06	0.21907E+00	0.81624E-04	0.60238E+00	0.45828E+02	0.29683E-04
0.16255E-03	0.11013E+03	0.23562E+06	0.22026E+00	0.83158E-04	0.60566E+00	0.45828E+02	0.30241E-04
0.16509E-03	0.11073E+03	0.23690E+06	0.22146E+00	0.84701E-04	0.60896E+00	0.45828E+02	0.30802E-04
0.16763E-03	0.11134E+03	0.23820E+06	0.22267E+00	0.86252E-04	0.61228E+00	0.45828E+02	0.31366E-04
0.17017E-03	0.11194E+03	0.23949E+06	0.22388E+00	0.87811E-04	0.61561E+00	0.45828E+02	0.31933E-04
0.17271E-03	0.11255E+03	0.24080E+06	0.22510E+00	0.89379E-04	0.61896E+00	0.45828E+02	0.32503E-04
0.17525E-03	0.11317E+03	0.24211E+06	0.22633E+00	0.90955E-04	0.62233E+00	0.45828E+02	0.33077E-04
0.17779E-03	0.11378E+03	0.24343E+06	0.22756E+00	0.92540E-04	0.62572E+00	0.45828E+02	0.33653E-04
0.18033E-03	0.11440E+03	0.24476E+06	0.22880E+00	0.94134E-04	0.62913E+00	0.45828E+02	0.34233E-04
0.18287E-03	0.11503E+03	0.24609E+06	0.23005E+00	0.95736E-04	0.63256E+00	0.45828E+02	0.34815E-04
0.18541E-03	0.11565E+03	0.24743E+06	0.23130E+00	0.97347E-04	0.63600E+00	0.45827E+02	0.35401E-04
0.18795E-03	0.11628E+03	0.24878E+06	0.23256E+00	0.98966E-04	0.63947E+00	0.45827E+02	0.35990E-04
0.19049E-03	0.11692E+03	0.25013E+06	0.23383E+00	0.10060E-03	0.64295E+00	0.45827E+02	0.36582E-04
0.19303E-03	0.11755E+03	0.25150E+06	0.23511E+00	0.10223E-03	0.64645E+00	0.45827E+02	0.37178E-04
0.19557E-03	0.11819E+03	0.25287E+06	0.23639E+00	0.10388E-03	0.64997E+00	0.45827E+02	0.37777E-04
0.19811E-03	0.11884E+03	0.25425E+06	0.23767E+00	0.10553E-03	0.65351E+00	0.45827E+02	0.38379E-04
0.20065E-03	0.11948E+03	0.25563E+06	0.23897E+00	0.10720E-03	0.65707E+00	0.45827E+02	0.38984E-04
0.20318E-03	0.12014E+03	0.25702E+06	0.24027E+00	0.10887E-03	0.66065E+00	0.45827E+02	0.39593E-04
0.20572E-03	0.12079E+03	0.25842E+06	0.24158E+00	0.11055E-03	0.66425E+00	0.45827E+02	0.40204E-04
0.20826E-03	0.12145E+03	0.25983E+06	0.24290E+00	0.11225E-03	0.66787E+00	0.45827E+02	0.40820E-04
0.21080E-03	0.12211E+03	0.26125E+06	0.24422E+00	0.11395E-03	0.67150E+00	0.45826E+02	0.41438E-04
0.21334E-03	0.12278E+03	0.26267E+06	0.24555E+00	0.11566E-03	0.67516E+00	0.45826E+02	0.42060E-04
0.21588E-03	0.12344E+03	0.26410E+06	0.24689E+00	0.11738E-03	0.67884E+00	0.45826E+02	0.42686E-04
0.21842E-03	0.12412E+03	0.26554E+06	0.24823E+00	0.11911E-03	0.68254E+00	0.45826E+02	0.43314E-04
0.22096E-03	0.12479E+03	0.26699E+06	0.24959E+00	0.12084E-03	0.68625E+00	0.45826E+02	0.43947E-04
0.22350E-03	0.12547E+03	0.26844E+06	0.25095E+00	0.12259E-03	0.68999E+00	0.45826E+02	0.44582E-04
0.22604E-03	0.12616E+03	0.26991E+06	0.25231E+00	0.12435E-03	0.69375E+00	0.45826E+02	0.45221E-04
0.22858E-03	0.12684E+03	0.27138E+06	0.25369E+00	0.12612E-03	0.69753E+00	0.45826E+02	0.45864E-04
0.23112E-03	0.12754E+03	0.27286E+06	0.25507E+00	0.12789E-03	0.70133E+00	0.45826E+02	0.46510E-04
0.23366E-03	0.12823E+03	0.27434E+06	0.25646E+00	0.12968E-03	0.70515E+00	0.45825E+02	0.47160E-04
0.23620E-03	0.12893E+03	0.27584E+06	0.25786E+00	0.13147E-03	0.70899E+00	0.45825E+02	0.47813E-04
0.23874E-03	0.12963E+03	0.27734E+06	0.25926E+00	0.13328E-03	0.71285E+00	0.45825E+02	0.48469E-04
0.24128E-03	0.13034E+03	0.27885E+06	0.26068E+00	0.13509E-03	0.71673E+00	0.45825E+02	0.49130E-04
0.24382E-03	0.13105E+03	0.28037E+06	0.26210E+00	0.13692E-03	0.72063E+00	0.45825E+02	0.49793E-04
0.24636E-03	0.13176E+03	0.28190E+06	0.26352E+00	0.13875E-03	0.72456E+00	0.45825E+02	0.50461E-04
0.24890E-03	0.13248E+03	0.28344E+06	0.26496E+00	0.14060E-03	0.72850E+00	0.45825E+02	0.51132E-04
0.25144E-03	0.13320E+03	0.28498E+06	0.26640E+00	0.14246E-03	0.73247E+00	0.45825E+02	0.51807E-04
0.25398E-03	0.13393E+03	0.28653E+06	0.26785E+00	0.14432E-03	0.73646E+00	0.45825E+02	0.52485E-04
0.25652E-03	0.13466E+03	0.28809E+06	0.26931E+00	0.14620E-03	0.74047E+00	0.45824E+02	0.53167E-04
0.25906E-03	0.13539E+03	0.28966E+06	0.27078E+00	0.14808E-03	0.74450E+00	0.45824E+02	0.53853E-04
0.26160E-03	0.13613E+03	0.29124E+06	0.27226E+00	0.14998E-03	0.74856E+00	0.45824E+02	0.54543E-04
0.26414E-03	0.13687E+03	0.29283E+06	0.27374E+00	0.15188E-03	0.75264E+00	0.45824E+02	0.55236E-04
0.26668E-03	0.13762E+03	0.29443E+06	0.27523E+00	0.15380E-03	0.75673E+00	0.45824E+02	0.55933E-04
0.26922E-03	0.13837E+03	0.29603E+06	0.27673E+00	0.15573E-03	0.76086E+00	0.45824E+02	0.56634E-04
0.27176E-03	0.13912E+03	0.29764E+06	0.27824E+00	0.15767E-03	0.76500E+00	0.45824E+02	0.57339E-04
0.27430E-03	0.13988E+03	0.29927E+06	0.27976E+00	0.15961E-03	0.76917E+00	0.45824E+02	0.58048E-04

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.27684E-03	0.14064E+03	0.30090E+06	0.28128E+00	0.16157E-03	0.77335E+00	0.45824E+02	0.58760E-04
0.27938E-03	0.14141E+03	0.30254E+06	0.28281E+00	0.16354E-03	0.77757E+00	0.45823E+02	0.59477E-04
0.28192E-03	0.14218E+03	0.30418E+06	0.28435E+00	0.16552E-03	0.78180E+00	0.45823E+02	0.60197E-04
0.28446E-03	0.14295E+03	0.30584E+06	0.28590E+00	0.16751E-03	0.78606E+00	0.45823E+02	0.60921E-04
0.28700E-03	0.14373E+03	0.30751E+06	0.28746E+00	0.16952E-03	0.79034E+00	0.45823E+02	0.61649E-04
0.28954E-03	0.14451E+03	0.30918E+06	0.28903E+00	0.17153E-03	0.79464E+00	0.45823E+02	0.62381E-04
0.29208E-03	0.14530E+03	0.31087E+06	0.29060E+00	0.17355E-03	0.79897E+00	0.45823E+02	0.63117E-04
0.29462E-03	0.14609E+03	0.31256E+06	0.29219E+00	0.17559E-03	0.80332E+00	0.45823E+02	0.63857E-04
0.29716E-03	0.14689E+03	0.31427E+06	0.29378E+00	0.17763E-03	0.80770E+00	0.45823E+02	0.64601E-04
0.29970E-03	0.14769E+03	0.31598E+06	0.29538E+00	0.17969E-03	0.81210E+00	0.45822E+02	0.65350E-04
0.30224E-03	0.14849E+03	0.31770E+06	0.29699E+00	0.18176E-03	0.81652E+00	0.45822E+02	0.66102E-04
0.30478E-03	0.14930E+03	0.31943E+06	0.29861E+00	0.18384E-03	0.82097E+00	0.45822E+02	0.66858E-04
0.30732E-03	0.15012E+03	0.32117E+06	0.30023E+00	0.18593E-03	0.82544E+00	0.45822E+02	0.67619E-
0.30986E-03	0.15093E+03	0.32292E+06	0.30187E+00	0.18803E-03	0.82993E+00	0.45822E+02	0.68383E
0.31240E-03	0.15176E+03	0.32468E+06	0.30351E+00	0.19014E-03	0.83445E+00	0.45822E+02	0.69152E-0
0.31494E-03	0.15258E+03	0.32645E+06	0.30517E+00	0.19227E-03	0.83900E+00	0.45822E+02	0.69925E-04
0.31748E-03	0.15341E+03	0.32823E+06	0.30683E+00	0.19441E-03	0.84356E+00	0.45822E+02	0.70702E-04
0.32002E-03	0.15425E+03	0.33002E+06	0.30850E+00	0.19655E-03	0.84816E+00	0.45821E+02	0.71484E-04
0.32256E-03	0.15509E+03	0.33182E+06	0.31018E+00	0.19871E-03	0.85278E+00	0.45821E+02	0.72269E-04
0.32510E-03	0.15594E+03	0.33363E+06	0.31187E+00	0.20089E-03	0.85742E+00	0.45821E+02	0.73059E-04
0.32764E-03	0.15679E+03	0.33544E+06	0.31357E+00	0.20307E-03	0.86209E+00	0.45821E+02	0.73853E-04
0.33018E-03	0.15764E+03	0.33727E+06	0.31528E+00	0.20527E-03	0.86679E+00	0.45821E+02	0.74652E-04
0.33272E-03	0.15850E+03	0.33911E+06	0.31700E+00	0.20747E-03	0.87151E+00	0.45821E+02	0.75455E-04
0.33525E-03	0.15936E+03	0.34096E+06	0.31873E+00	0.20969E-03	0.87625E+00	0.45821E+02	0.76262E-04
0.33779E-03	0.16023E+03	0.34282E+06	0.32046E+00	0.21192E-03	0.88102E+00	0.45820E+02	0.77074E-04
0.34033E-03	0.16110E+03	0.34468E+06	0.32221E+00	0.21417E-03	0.88582E+00	0.45820E+02	0.77890E-04
0.34287E-03	0.16198E+03	0.34656E+06	0.32396E+00	0.21642E-03	0.89065E+00	0.45820E+02	0.78711E-04
0.34541E-03	0.16286E+03	0.34845E+06	0.32573E+00	0.21869E-03	0.89550E+00	0.45820E+02	0.79536E-04
0.34795E-03	0.16375E+03	0.35035E+06	0.32750E+00	0.22097E-03	0.90037E+00	0.45820E+02	0.80365E-04
0.35049E-03	0.16464E+03	0.35226E+06	0.32929E+00	0.22327E-03	0.90528E+00	0.45820E+02	0.81199E-04
0.35303E-03	0.16554E+03	0.35418E+06	0.33108E+00	0.22557E-03	0.91021E+00	0.45820E+02	0.82038E-04
0.35557E-03	0.16644E+03	0.35611E+06	0.33289E+00	0.22789E-03	0.91516E+00	0.45820E+02	0.82881E-04
0.35811E-03	0.16735E+03	0.35805E+06	0.33470E+00	0.23022E-03	0.92015E+00	0.45819E+02	0.83729E-04
0.36065E-03	0.16826E+03	0.36000E+06	0.33652E+00	0.23256E-03	0.92516E+00	0.45819E+02	0.84581E-04
0.36319E-03	0.16918E+03	0.36196E+06	0.33836E+00	0.23492E-03	0.93019E+00	0.45819E+02	0.85438E-04
0.36573E-03	0.17010E+03	0.36393E+06	0.34020E+00	0.23729E-03	0.93526E+00	0.45819E+02	0.86300E-04
0.36827E-03	0.17103E+03	0.36592E+06	0.34205E+00	0.23967E-03	0.94035E+00	0.45819E+02	0.87166E-04
0.37081E-03	0.17196E+03	0.36791E+06	0.34392E+00	0.24206E-03	0.94547E+00	0.45819E+02	0.88038E-04
0.37335E-03	0.17290E+03	0.36992E+06	0.34579E+00	0.24447E-03	0.95062E+00	0.45819E+02	0.88913E-04
0.37589E-03	0.17384E+03	0.37193E+06	0.34768E+00	0.24689E-03	0.95580E+00	0.45818E+02	0.89794E-04
0.37843E-03	0.17479E+03	0.37396E+06	0.34957E+00	0.24933E-03	0.96100E+00	0.45818E+02	0.90679E-04
0.38097E-03	0.17574E+03	0.37600E+06	0.35148E+00	0.25177E-03	0.96624E+00	0.45818E+02	0.91570E-04
0.38351E-03	0.17670E+03	0.37805E+06	0.35339E+00	0.25424E-03	0.97150E+00	0.45818E+02	0.92465E-04
0.38605E-03	0.17766E+03	0.38011E+06	0.35532E+00	0.25671E-03	0.97679E+00	0.45818E+02	0.93365E-04
0.38859E-03	0.17863E+03	0.38218E+06	0.35725E+00	0.25920E-03	0.98211E+00	0.45818E+02	0.94270E-04
0.39113E-03	0.17960E+03	0.38426E+06	0.35920E+00	0.26170E-03	0.98746E+00	0.45817E+02	0.95180E-04
0.39367E-03	0.18058E+03	0.38635E+06	0.36116E+00	0.26421E-03	0.99283E+00	0.45817E+02	0.96094E-04
0.39621E-03	0.18156E+03	0.38846E+06	0.36312E+00	0.26674E-03	0.99824E+00	0.45817E+02	0.97014E-04
0.39875E-03	0.18255E+03	0.39058E+06	0.36510E+00	0.26928E-03	0.10037E+01	0.45817E+02	0.97939E-04
0.40129E-03	0.18355E+03	0.39270E+06	0.36709E+00	0.27184E-03	0.10091E+01	0.45817E+02	0.98869E-04
0.40383E-03	0.18455E+03	0.39484E+06	0.36909E+00	0.27441E-03	0.10146E+01	0.45817E+02	0.99804E-04
0.40637E-03	0.18555E+03	0.39700E+06	0.37110E+00	0.27699E-03	0.10202E+01	0.45817E+02	0.10074E-03
0.40891E-03	0.18656E+03	0.39916E+06	0.37313E+00	0.27959E-03	0.10257E+01	0.45816E+02	0.10169E-03
0.41145E-03	0.18758E+03	0.40134E+06	0.37516E+00	0.28220E-03	0.10313E+01	0.45816E+02	0.10264E-03

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.41399E-03	0.18860E+03	0.40352E+06	0.37720E+00	0.28483E-03	0.10369E+01	0.45816E+02	0.10359E-03
0.41653E-03	0.18963E+03	0.40572E+06	0.37926E+00	0.28747E-03	0.10426E+01	0.45816E+02	0.10455E-03
0.41907E-03	0.19066E+03	0.40793E+06	0.38132E+00	0.29013E-03	0.10482E+01	0.45816E+02	0.10552E-03
0.42161E-03	0.19170E+03	0.41016E+06	0.38340E+00	0.29280E-03	0.10539E+01	0.45816E+02	0.10649E-03
0.42415E-03	0.19275E+03	0.41239E+06	0.38549E+00	0.29548E-03	0.10597E+01	0.45815E+02	0.10747E-03
0.42669E-03	0.19380E+03	0.41464E+06	0.38759E+00	0.29818E-03	0.10655E+01	0.45815E+02	0.10845E-03
0.42923E-03	0.19485E+03	0.41690E+06	0.38970E+00	0.30089E-03	0.10713E+01	0.45815E+02	0.10944E-03
0.43177E-03	0.19591E+03	0.41917E+06	0.39183E+00	0.30362E-03	0.10771E+01	0.45815E+02	0.11043E-03
0.43431E-03	0.19698E+03	0.42145E+06	0.39396E+00	0.30636E-03	0.10830E+01	0.45815E+02	0.11143E-03
0.43685E-03	0.19805E+03	0.42375E+06	0.39611E+00	0.30912E-03	0.10889E+01	0.45815E+02	0.11243E-03
0.43939E-03	0.19913E+03	0.42606E+06	0.39827E+00	0.31189E-03	0.10948E+01	0.45814E+02	0.11344E-03
0.44193E-03	0.20022E+03	0.42838E+06	0.40044E+00	0.31468E-03	0.11007E+01	0.45814E+02	0.11445E-03
0.44447E-03	0.20131E+03	0.43072E+06	0.40262E+00	0.31749E-03	0.11067E+01	0.45814E+02	0.11547E-03
0.44701E-03	0.20241E+03	0.43306E+06	0.40481E+00	0.32030E-03	0.11128E+01	0.45814E+02	0.11650E-03
0.44955E-03	0.20351E+03	0.43542E+06	0.40702E+00	0.32314E-03	0.11188E+01	0.45814E+02	0.11753E-03
0.45209E-03	0.20462E+03	0.43780E+06	0.40924E+00	0.32599E-03	0.11249E+01	0.45814E+02	0.11857E-03
0.45463E-03	0.20573E+03	0.44018E+06	0.41147E+00	0.32885E-03	0.11310E+01	0.45813E+02	0.11961E-03
0.45717E-03	0.20685E+03	0.44258E+06	0.41371E+00	0.33173E-03	0.11372E+01	0.45813E+02	0.12066E-03
0.45971E-03	0.20798E+03	0.44499E+06	0.41596E+00	0.33463E-03	0.11434E+01	0.45813E+02	0.12171E-03
0.46225E-03	0.20911E+03	0.44742E+06	0.41823E+00	0.33754E-03	0.11496E+01	0.45813E+02	0.12277E-03
0.46479E-03	0.21025E+03	0.44986E+06	0.42051E+00	0.34047E-03	0.11559E+01	0.45813E+02	0.12383E-03
0.46733E-03	0.21140E+03	0.45231E+06	0.42280E+00	0.34341E-03	0.11622E+01	0.45813E+02	0.12491E-03
0.46986E-03	0.21255E+03	0.45477E+06	0.42510E+00	0.34637E-03	0.11685E+01	0.45812E+02	0.12598E-03
0.47240E-03	0.21371E+03	0.45725E+06	0.42742E+00	0.34935E-03	0.11749E+01	0.45812E+02	0.12707E-03
0.47494E-03	0.21487E+03	0.45974E+06	0.42975E+00	0.35234E-03	0.11813E+01	0.45812E+02	0.12815E-03
0.47748E-03	0.21605E+03	0.46225E+06	0.43209E+00	0.35535E-03	0.11877E+01	0.45812E+02	0.12925E-03
0.48002E-03	0.21722E+03	0.46477E+06	0.43445E+00	0.35837E-03	0.11942E+01	0.45812E+02	0.13035E-03
0.48256E-03	0.21841E+03	0.46730E+06	0.43681E+00	0.36141E-03	0.12007E+01	0.45811E+02	0.13145E-03
0.48510E-03	0.21960E+03	0.46985E+06	0.43919E+00	0.36447E-03	0.12072E+01	0.45811E+02	0.13257E-03
0.48764E-03	0.22079E+03	0.47241E+06	0.44159E+00	0.36755E-03	0.12138E+01	0.45811E+02	0.13369E-03
0.49018E-03	0.22200E+03	0.47498E+06	0.44399E+00	0.37064E-03	0.12204E+01	0.45811E+02	0.13481E-03
0.49272E-03	0.22321E+03	0.47757E+06	0.44641E+00	0.37375E-03	0.12270E+01	0.45811E+02	0.13594E-03
0.49526E-03	0.22442E+03	0.48017E+06	0.44884E+00	0.37687E-03	0.12337E+01	0.45810E+02	0.13708E-03
0.49780E-03	0.22564E+03	0.48279E+06	0.45129E+00	0.38001E-03	0.12404E+01	0.45810E+02	0.13822E-03
0.50034E-03	0.22687E+03	0.48542E+06	0.45375E+00	0.38317E-03	0.12472E+01	0.45810E+02	0.13937E-03
0.50288E-03	0.22811E+03	0.48807E+06	0.45622E+00	0.38635E-03	0.12540E+01	0.45810E+02	0.14053E-03
0.50542E-03	0.22935E+03	0.49073E+06	0.45871E+00	0.38954E-03	0.12608E+01	0.45810E+02	0.14169E-03
0.50796E-03	0.23060E+03	0.49340E+06	0.46121E+00	0.39275E-03	0.12677E+01	0.45810E+02	0.14286E-03
0.51050E-03	0.23186E+03	0.49609E+06	0.46372E+00	0.39598E-03	0.12746E+01	0.45809E+02	0.14403E-03
0.51304E-03	0.23312E+03	0.49879E+06	0.46625E+00	0.39923E-03	0.12815E+01	0.45809E+02	0.14521E-03
0.51558E-03	0.23439E+03	0.50151E+06	0.46879E+00	0.40249E-03	0.12885E+01	0.45809E+02	0.14640E-03
0.51812E-03	0.23567E+03	0.50425E+06	0.47134E+00	0.40577E-03	0.12955E+01	0.45809E+02	0.14759E-03
0.52066E-03	0.23695E+03	0.50699E+06	0.47391E+00	0.40907E-03	0.13025E+01	0.45809E+02	0.14879E-03
0.52320E-03	0.23825E+03	0.50976E+06	0.47649E+00	0.41239E-03	0.13096E+01	0.45808E+02	0.15000E-03
0.52574E-03	0.23954E+03	0.51254E+06	0.47909E+00	0.41572E-03	0.13168E+01	0.45808E+02	0.15121E-03
0.52828E-03	0.24085E+03	0.51533E+06	0.48170E+00	0.41908E-03	0.13239E+01	0.45808E+02	0.15243E-03
0.53082E-03	0.24216E+03	0.51814E+06	0.48432E+00	0.42245E-03	0.13311E+01	0.45808E+02	0.15366E-03
0.53336E-03	0.24348E+03	0.52096E+06	0.48696E+00	0.42584E-03	0.13384E+01	0.45808E+02	0.15489E-03
0.53590E-03	0.24481E+03	0.52380E+06	0.48962E+00	0.42925E-03	0.13457E+01	0.45807E+02	0.15613E-03
0.53844E-03	0.24614E+03	0.52666E+06	0.49228E+00	0.43267E-03	0.13530E+01	0.45807E+02	0.15738E-03
0.54098E-03	0.24748E+03	0.52953E+06	0.49497E+00	0.43612E-03	0.13604E+01	0.45807E+02	0.15863E-03
0.54352E-03	0.24883E+03	0.53241E+06	0.49766E+00	0.43958E-03	0.13678E+01	0.45807E+02	0.15990E-03
0.54606E-03	0.25019E+03	0.53531E+06	0.50038E+00	0.44307E-03	0.13752E+01	0.45806E+02	0.16116E-03
0.54860E-03	0.25155E+03	0.53823E+06	0.50310E+00	0.44657E-03	0.13827E+01	0.45806E+02	0.16244E-03

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.55114E-03	0.25292E+03	0.54116E+06	0.50584E+00	0.45009E-03	0.13902E+01	0.45806E+02	0.16372E-03
0.55368E-03	0.25430E+03	0.54411E+06	0.50860E+00	0.45363E-03	0.13978E+01	0.45806E+02	0.16501E-03
0.55622E-03	0.25569E+03	0.54708E+06	0.51137E+00	0.45719E-03	0.14054E+01	0.45806E+02	0.16630E-03
0.55876E-03	0.25708E+03	0.55006E+06	0.51416E+00	0.46077E-03	0.14131E+01	0.45805E+02	0.16760E-03
0.56130E-03	0.25848E+03	0.55306E+06	0.51696E+00	0.46437E-03	0.14208E+01	0.45805E+02	0.16891E-03
0.56384E-03	0.25989E+03	0.55607E+06	0.51978E+00	0.46799E-03	0.14285E+01	0.45805E+02	0.17023E-03
0.56638E-03	0.26130E+03	0.55910E+06	0.52261E+00	0.47163E-03	0.14363E+01	0.45805E+02	0.17155E-03
0.56892E-03	0.26273E+03	0.56215E+06	0.52546E+00	0.47528E-03	0.14441E+01	0.45805E+02	0.17288E-05
0.57146E-03	0.26416E+03	0.56521E+06	0.52832E+00	0.47896E-03	0.14520E+01	0.45804E+02	0.17422E-03
0.57400E-03	0.26560E+03	0.56829E+06	0.53120E+00	0.48266E-03	0.14599E+01	0.45804E+02	0.17557E-03
0.57654E-03	0.26705E+03	0.57139E+06	0.53409E+00	0.48638E-03	0.14678E+01	0.45804E+02	0.17692E-03
0.57908E-03	0.26850E+03	0.57451E+06	0.53700E+00	0.49012E-03	0.14758E+01	0.45804E+02	0.17828E-03
0.58162E-03	0.26997E+03	0.57764E+06	0.53993E+00	0.49387E-03	0.14838E+01	0.45803E+02	0.17965E-03
0.58416E-03	0.27144E+03	0.58079E+06	0.54287E+00	0.49765E-03	0.14919E+01	0.45803E+02	0.18102E-03
0.58670E-03	0.27292E+03	0.58395E+06	0.54583E+00	0.50145E-03	0.15000E+01	0.45803E+02	0.18241E-03
0.58924E-03	0.27440E+03	0.58713E+06	0.54881E+00	0.50527E-03	0.15082E+01	0.45803E+02	0.18380E-03
0.59178E-03	0.27590E+03	0.59033E+06	0.55180E+00	0.50911E-03	0.15164E+01	0.45802E+02	0.18519E-03
0.59432E-03	0.27740E+03	0.59355E+06	0.55480E+00	0.51297E-03	0.15247E+01	0.45802E+02	0.18660E-03
0.59686E-03	0.27891E+03	0.59679E+06	0.55783E+00	0.51686E-03	0.15330E+01	0.45802E+02	0.18801E-03
0.59940E-03	0.28043E+03	0.60004E+06	0.56087E+00	0.52076E-03	0.15413E+01	0.45802E+02	0.18943E-03
0.60194E-03	0.28196E+03	0.60331E+06	0.56392E+00	0.52469E-03	0.15497E+01	0.45802E+02	0.19086E-03
0.60447E-03	0.28350E+03	0.60660E+06	0.56699E+00	0.52863E-03	0.15581E+01	0.45801E+02	0.19230E-03
0.60701E-03	0.28504E+03	0.60990E+06	0.57008E+00	0.53260E-03	0.15666E+01	0.45801E+02	0.19374E-03
0.60955E-03	0.28660E+03	0.61323E+06	0.57319E+00	0.53659E-03	0.15752E+01	0.45801E+02	0.19519E-03
0.61209E-03	0.28816E+03	0.61657E+06	0.57631E+00	0.54060E-03	0.15837E+01	0.45801E+02	0.19665E-03
0.61463E-03	0.28973E+03	0.61993E+06	0.57945E+00	0.54464E-03	0.15924E+01	0.45800E+02	0.19812E-03
0.61717E-03	0.29131E+03	0.62331E+06	0.58261E+00	0.54869E-03	0.16010E+01	0.45800E+02	0.19960E-03
0.61971E-03	0.29289E+03	0.62671E+06	0.58579E+00	0.55277E-03	0.16097E+01	0.45800E+02	0.20108E-03
0.62225E-03	0.29449E+03	0.63012E+06	0.58898E+00	0.55687E-03	0.16185E+01	0.45800E+02	0.20257E-03
0.62479E-03	0.29609E+03	0.63356E+06	0.59219E+00	0.56099E-03	0.16273E+01	0.45799E+02	0.20407E-03
0.62733E-03	0.29771E+03	0.63701E+06	0.59542E+00	0.56513E-03	0.16362E+01	0.45799E+02	0.20558E-03
0.62987E-03	0.29933E+03	0.64048E+06	0.59866E+00	0.56930E-03	0.16451E+01	0.45799E+02	0.20710E-03
0.63241E-03	0.30096E+03	0.64397E+06	0.60192E+00	0.57349E-03	0.16540E+01	0.45799E+02	0.20862E-03
0.63495E-03	0.30260E+03	0.64748E+06	0.60520E+00	0.57770E-03	0.16630E+01	0.45798E+02	0.21015E-03
0.63749E-03	0.30425E+03	0.65101E+06	0.60850E+00	0.58194E-03	0.16721E+01	0.45798E+02	0.21170E-03
0.64003E-03	0.30591E+03	0.65456E+06	0.61182E+00	0.58620E-03	0.16812E+01	0.45798E+02	0.21325E-03
0.64257E-03	0.30758E+03	0.65813E+06	0.61515E+00	0.59048E-03	0.16903E+01	0.45798E+02	0.21480E-03
0.64511E-03	0.30925E+03	0.66172E+06	0.61850E+00	0.59478E-03	0.16995E+01	0.45797E+02	0.21637E-03
0.64765E-03	0.31094E+03	0.66532E+06	0.62187E+00	0.59911E-03	0.17088E+01	0.45797E+02	0.21795E-03
0.65019E-03	0.31263E+03	0.66895E+06	0.62526E+00	0.60346E-03	0.17181E+01	0.45797E+02	0.21953E-03
0.65273E-03	0.31433E+03	0.67259E+06	0.62867E+00	0.60784E-03	0.17275E+01	0.45796E+02	0.22112E-03
0.65527E-03	0.31605E+03	0.67626E+06	0.63209E+00	0.61224E-03	0.17369E+01	0.45796E+02	0.22272E-03
0.65781E-03	0.31777E+03	0.67995E+06	0.63554E+00	0.61666E-03	0.17463E+01	0.45796E+02	0.22433E-03
0.66035E-03	0.31950E+03	0.68365E+06	0.63900E+00	0.62111E-03	0.17558E+01	0.45796E+02	0.22595E-03
0.66289E-03	0.32124E+03	0.68738E+06	0.64248E+00	0.62558E-03	0.17654E+01	0.45795E+02	0.22758E-03
0.66543E-03	0.32299E+03	0.69113E+06	0.64599E+00	0.63008E-03	0.17750E+01	0.45795E+02	0.22921E-03
0.66797E-03	0.32475E+03	0.69489E+06	0.64951E+00	0.63460E-03	0.17846E+01	0.45795E+02	0.23086E-03
0.67051E-03	0.32652E+03	0.69868E+06	0.65305E+00	0.63914E-03	0.17944E+01	0.45795E+02	0.23251E-03
0.67305E-03	0.32830E+03	0.70249E+06	0.65660E+00	0.64371E-03	0.18041E+01	0.45794E+02	0.23418E-03
0.67559E-03	0.33009E+03	0.70632E+06	0.66018E+00	0.64831E-03	0.18139E+01	0.45794E+02	0.23585E-03
0.67813E-03	0.33189E+03	0.71017E+06	0.66378E+00	0.65293E-03	0.18238E+01	0.45794E+02	0.23753E-03
0.68067E-03	0.33370E+03	0.71404E+06	0.66740E+00	0.65757E-03	0.18337E+01	0.45793E+02	0.23922E-03
0.68321E-03	0.33552E+03	0.71793E+06	0.67103E+00	0.66224E-03	0.18437E+01	0.45793E+02	0.24092E-03
0.68575E-03	0.33735E+03	0.72184E+06	0.67469E+00	0.66694E-03	0.18538E+01	0.45793E+02	0.24263E-03

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.68829E-03	0.33918E+03	0.72578E+06	0.67837E+00	0.67166E-03	0.18639E+01	0.45793E+02	0.24435E-03
0.69083E-03	0.34103E+03	0.72973E+06	0.68206E+00	0.67640E-03	0.18740E+01	0.45792E+02	0.24608E-03
0.69337E-C3	0.34289E+03	0.73371E+06	0.68578E+00	0.68118E-03	0.18842E+01	0.45792E+02	0.24781E-03
0.69591E-03	0.34476E+03	0.73771E+06	0.68952E+00	0.68597E-03	0.18945E+01	0.45792E+02	0.24956E-03
0.69845E-03	0.34664E+03	0.74173E+06	0.69328E+00	0.69080E-03	0.19048E+01	0.45791E+02	0.25131E-03
0.70099E-03	0.34853E+03	0.74578E+06	0.69705E+00	0.69565E-03	0.19151E+01	0.45791E+02	0.25308E-03
0.70353E-03	0.35043E+03	0.74984E+06	0.70085E+00	0.70053E-03	0.19256E+01	0.45791E+02	0.25486E-03
0.70607E-03	0.35234E+03	0.75393E+06	0.70467E+00	0.70543E-03	0.19360E+01	0.45791E+02	0.25664E-03
0.70861E-03	0.35426E+03	0.75804E+06	0.70851E+00	0.71036E-03	0.19466E+01	0.45790E+02	0.25843E-03
0.71115E-03	0.35619E+03	0.76217E+06	0.71237E+00	0.71532E-03	0.19572E+01	0.45790E+02	0.26024E-03
0.71369E-03	0.35813E+03	0.76632E+06	0.71625E+00	0.72030E-03	0.19678E+01	0.45790E+02	0.26205E-03
0.71623E-03	0.36008E+03	0.77050E+06	0.72016E+00	0.72532E-03	0.19785E+01	0.45789E+02	0.26388E-03
0.71877E-03	0.36204E+03	0.77470E+06	0.72408E+00	0.73035E-03	0.19893E+01	0.45789E+02	0.26571E-03
0.72131E-03	0.36401E+03	0.77892E+06	0.72803E+00	0.73542E-03	0.20001E+01	0.45789E+02	0.26756E-03
0.72385E-03	0.36600E+03	0.78317E+06	0.73200E+00	0.74051E-03	0.20110E+01	0.45788E+02	0.26941E-03
0.72639E-03	0.36799E+03	0.78744E+06	0.73598E+00	0.74564E-03	0.20220E+01	0.45788E+02	0.27127E-03
0.72893E-03	0.37000E+03	0.79173E+06	0.74000E+00	0.75078E-03	0.20330E+01	0.45788E+02	0.27315E-03
0.73147E-03	0.37201E+03	0.79605E+06	0.74403E+00	0.75596E-03	0.20440E+01	0.45787E+02	0.27503E-03
0.73401E-03	0.37404E+03	0.80039E+06	0.74808E+00	0.76117E-03	0.20552E+01	0.45787E+02	0.27693E-03
0.73654E-03	0.37608E+03	0.80475E+06	0.75216E+00	0.76640E-03	0.20663E+01	0.45787E+02	0.27883E-03
0.73908E-03	0.37813E+03	0.80914E+06	0.75626E+00	0.77166E-03	0.20776E+01	0.45787E+02	0.28075E-03
0.74162E-03	0.38019E+03	0.81355E+06	0.76038E+00	0.77696E-03	0.20889E+01	0.45786E+02	0.28267E-03
0.74416E-03	0.38226E+03	0.81798E+06	0.76452E+00	0.78228E-03	0.21003E+01	0.45786E+02	0.28461E-03
0.74670E-03	0.38434E+03	0.82244E+06	0.76869E+00	0.78762E-03	0.21117E+01	0.45786E+02	0.28656E-03
0.74924E-03	0.38644E+03	0.82692E+06	0.77288E+00	0.79300E-03	0.21232E+01	0.45785E+02	0.28852E-03
0.75178E-03	0.38855E+03	0.83143E+06	0.77709E+00	0.79841E-03	0.21347E+01	0.45785E+02	0.29048E-03
0.75432E-03	0.39066E+03	0.83596E+06	0.78133E+00	0.80385E-03	0.21464E+01	0.45785E+02	0.29246E-03
0.75686E-03	0.39279E+03	0.84052E+06	0.78558E+00	0.80931E-03	0.21580E+01	0.45784E+02	0.29445E-03
0.75940E-03	0.39493E+03	0.84510E+06	0.78986E+00	0.81481E-03	0.21698E+01	0.45784E+02	0.29645E-03
0.76194E-03	0.39708E+03	0.84971E+06	0.79417E+00	0.82033E-03	0.21816E+01	0.45784E+02	0.29846E-03
0.76448E-03	0.39925E+03	0.85434E+06	0.79850E+00	0.82589E-03	0.21935E+01	0.45783E+02	0.30049E-03
0.76702E-03	0.40142E+03	0.85900E+06	0.80285E+00	0.83148E-03	0.22054E+01	0.45783E+02	0.30252E-03
0.76956E-03	0.40361E+03	0.86368E+06	0.80722E+00	0.83709E-03	0.22174E+01	0.45783E+02	0.30457E-03
0.77210E-03	0.40581E+03	0.86839E+06	0.81162E+00	0.84274E-03	0.22295E+01	0.45782E+02	0.30662E-03
0.77464E-03	0.40802E+03	0.87312E+06	0.81605E+00	0.84842E-03	0.22416E+01	0.45782E+02	0.30869E-03
0.77718E-03	0.41025E+03	0.87788E+06	0.82049E+00	0.85413E-03	0.22538E+01	0.45782E+02	0.31077E-03
0.77972E-03	0.41248E+03	0.88267E+06	0.82496E+00	0.85987E-03	0.22661E+01	0.45781E+02	0.31286E-03
0.78226E-03	0.41473E+03	0.88748E+06	0.82946E+00	0.86564E-03	0.22784E+01	0.45781E+02	0.31496E-03
0.78480E-03	0.41699E+03	0.89232E+06	0.83398E+00	0.87144E-03	0.22908E+01	0.45780E+02	0.31707E-03
0.78734E-03	0.41926E+03	0.89718E+06	0.83853E+00	0.87727E-03	0.23033E+01	0.45780E+02	0.31919E-03
0.78988E-03	0.42155E+03	0.90207E+06	0.84310E+00	0.88314E-03	0.23158E+01	0.45780E+02	0.32133E-03
0.79242E-03	0.42385E+03	0.90699E+06	0.84769E+00	0.88904E-03	0.23284E+01	0.45779E+02	0.32348E-03
0.79496E-03	0.42616E+03	0.91193E+06	0.85231E+00	0.89497E-03	0.23411E+01	0.45779E+02	0.32564E-03
0.79750E-03	0.42848E+03	0.91690E+06	0.85696E+00	0.90093E-03	0.23538E+01	0.45779E+02	0.32781E-03
0.80004E-03	0.43081E+03	0.92190E+06	0.86163E+00	0.90692E-03	0.23666E+01	0.45778E+02	0.32999E-03
0.80258E-03	0.43316E+03	0.92693E+06	0.86632E+00	0.91295E-03	0.23795E+01	0.45778E+02	0.33218E-03
0.80512E-03	0.43552E+03	0.93198E+06	0.87104E+00	0.91901E-03	0.23925E+01	0.45778E+02	0.33439E-03
0.80766E-03	0.43789E+03	0.93706E+06	0.87579E+00	0.92510E-03	0.24055E+01	0.45777E+02	0.33661E-03
0.81020E-03	0.44028E+03	0.94217E+06	0.88056E+00	0.93123E-03	0.24186E+01	0.45777E+02	0.33884E-03
0.81274E-03	0.44268E+03	0.94731E+06	0.88536E+00	0.93739E-03	0.24317E+01	0.45776E+02	0.34108E-03
0.81528E-03	0.44509E+03	0.95247E+06	0.89019E+00	0.94358E-03	0.24450E+01	0.45776E+02	0.34333E-03
0.81782E-03	0.44752E+03	0.95766E+06	0.89504E+00	0.94981E-03	0.24583E+01	0.45776E+02	0.34560E-03
0.82036E-03	0.44996E+03	0.96288E+06	0.89992E+00	0.95607E-03	0.24716E+01	0.45775E+02	0.34788E-03
0.82290E-03	0.45241E+03	0.96813E+06	0.90482E+00	0.96236E-03	0.24851E+01	0.45775E+02	0.35017E-03

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.82544E-03	0.45488E+03	0.97341E+06	0.90975E+00	0.96869E-03	0.24986E+01	0.45775E+02	0.35248E-03
0.82798E-03	0.45735E+03	0.97872E+06	0.91471E+00	0.97505E-03	0.25122E+01	0.45774E+02	0.35479E-03
0.83052E-03	0.45985E+03	0.98405E+06	0.91969E+00	0.98145E-03	0.25259E+01	0.45774E+02	0.35712E-03
0.83306E-03	0.46235E+03	0.98942E+06	0.92471E+00	0.98789E-03	0.25396E+01	0.45773E+02	0.35947E-03
0.83560E-03	0.46487E+03	0.99481E+06	0.92975E+00	0.99435E-03	0.25534E+01	0.45773E+02	0.36182E-03
0.83814E-03	0.46741E+03	0.10002E+07	0.93481E+00	0.10009E-02	0.25673E+01	0.45773E+02	0.36419E-03
0.84068E-03	0.46995E+03	0.10057E+07	0.93991E+00	0.10074E-02	0.25813E+01	0.45772E+02	0.36657E-03
0.84322E-03	0.47251E+03	0.10112E+07	0.94503E+00	0.10140E-02	0.25953E+01	0.45772E+02	0.36896E-03
0.84576E-03	0.47509E+03	0.10167E+07	0.95018E+00	0.10206E-02	0.26095E+01	0.45771E+02	0.37137E-03
0.84830E-03	0.47768E+03	0.10222E+07	0.95536E+00	0.10272E-02	0.26237E+01	0.45771E+02	0.37379E-03
0.85084E-03	0.48028E+03	0.10278E+07	0.96057E+00	0.10339E-02	0.26379E+01	0.45771E+02	0.37622E-03
0.85338E-03	0.48290E+03	0.10334E+07	0.96580E+00	0.10406E-02	0.26523E+01	0.45770E+02	0.37867E-03
0.85592E-03	0.48553E+03	0.10390E+07	0.97106E+00	0.10474E-02	0.26667E+01	0.45770E+02	0.38113E-03
0.85846E-03	0.48818E+03	0.10447E+07	0.97636E+00	0.10542E-02	0.26812E+01	0.45769E+02	0.38360E-03
0.86100E-03	0.49084E+03	0.10504E+07	0.98168E+00	0.10610E-02	0.26958E+01	0.45769E+02	0.38609E-03
0.86354E-03	0.49351E+03	0.10561E+07	0.98703E+00	0.10679E-02	0.27105E+01	0.45769E+02	0.38859E-03
0.86608E-03	0.49620E+03	0.10619E+07	0.99241E+00	0.10748E-02	0.27252E+01	0.45768E+02	0.39110E-03
0.86862E-03	0.49891E+03	0.10677E+07	0.99782E+00	0.10817E-02	0.27401E+01	0.45768E+02	0.39363E-03
0.87115E-03	0.50163E+03	0.10735E+07	0.10033E+01	0.10887E-02	0.27550E+01	0.45767E+02	0.39617E-03
0.87369E-03	0.50436E+03	0.10793E+07	0.10087E+01	0.10957E-02	0.27700E+01	0.45767E+02	0.39873E-03
0.87623E-03	0.50711E+03	0.10852E+07	0.10142E+01	0.11028E-02	0.27850E+01	0.45766E+02	0.40129E-03
0.87877E-03	0.50987E+03	0.10911E+07	0.10197E+01	0.11098E-02	0.28002E+01	0.45766E+02	0.40388E-03
0.88131E-03	0.51265E+03	0.10971E+07	0.10253E+01	0.11170E-02	0.28154E+01	0.45766E+02	0.40647E-03
0.88385E-03	0.51545E+03	0.11031E+07	0.10309E+01	0.11241E-02	0.28307E+01	0.45765E+02	0.40909E-03
0.88639E-03	0.51826E+03	0.11091E+07	0.10365E+01	0.11314E-02	0.28461E+01	0.45765E+02	0.41171E-03
0.88893E-03	0.52108E+03	0.11151E+07	0.10422E+01	0.11386E-02	0.28616E+01	0.45764E+02	0.41435E-03
0.89147E-03	0.52392E+03	0.11212E+07	0.10478E+01	0.11459E-02	0.28772E+01	0.45764E+02	0.41700E-03
0.89401E-03	0.52678E+03	0.11273E+07	0.10536E+01	0.11532E-02	0.28928E+01	0.45763E+02	0.41967E-03
0.89655E-03	0.52965E+03	0.11335E+07	0.10593E+01	0.11606E-02	0.29086E+01	0.45763E+02	0.42236E-03
0.89909E-03	0.53253E+03	0.11397E+07	0.10651E+01	0.11680E-02	0.29244E+01	0.45762E+02	0.42505E-03
0.90163E-03	0.53544E+03	0.11459E+07	0.10709E+01	0.11754E-02	0.29403E+01	0.45762E+02	0.42777E-03
0.90417E-03	0.53835E+03	0.11521E+07	0.10767E+01	0.11829E-02	0.29563E+01	0.45762E+02	0.43049E-03
0.90671E-03	0.54129E+03	0.11584E+07	0.10826E+01	0.11905E-02	0.29724E+01	0.45761E+02	0.43324E-03
0.90925E-03	0.54424E+03	0.11647E+07	0.10885E+01	0.11980E-02	0.29886E+01	0.45761E+02	0.43599E-03
0.91179E-03	0.54720E+03	0.11711E+07	0.10944E+01	0.12056E-02	0.30048E+01	0.45760E+02	0.43876E-03
0.91433E-03	0.55019E+03	0.11775E+07	0.11004E+01	0.12133E-02	0.30212E+01	0.45760E+02	0.44155E-03
0.91687E-03	0.55319E+03	0.11839E+07	0.11064E+01	0.12210E-02	0.30376E+01	0.45759E+02	0.44435E-03
0.91941E-03	0.55620E+03	0.11903E+07	0.11124E+01	0.12287E-02	0.30541E+01	0.45759E+02	0.44717E-03
0.92195E-03	0.55923E+03	0.11968E+07	0.11185E+01	0.12365E-02	0.30707E+01	0.45758E+02	0.45001E-03
0.92449E-03	0.56228E+03	0.12033E+07	0.11246E+01	0.12443E-02	0.30874E+01	0.45758E+02	0.45285E-03
0.92703E-03	0.56534E+03	0.12099E+07	0.11307E+01	0.12522E-02	0.31042E+01	0.45757E+02	0.45572E-03
0.92957E-03	0.56843E+03	0.12165E+07	0.11369E+01	0.12601E-02	0.31211E+01	0.45757E+02	0.45860E-03
0.93211E-03	0.57152E+03	0.12231E+07	0.11430E+01	0.12680E-02	0.31381E+01	0.45756E+02	0.46149E-03
0.93465E-03	0.57464E+03	0.12298E+07	0.11493E+01	0.12760E-02	0.31552E+01	0.45756E+02	0.46440E-03
0.93719E-03	0.57777E+03	0.12365E+07	0.11555E+01	0.12841E-02	0.31723E+01	0.45755E+02	0.46733E-03
0.93973E-03	0.58092E+03	0.12433E+07	0.11618E+01	0.12921E-02	0.31896E+01	0.45755E+02	0.47027E-03
0.94227E-03	0.58409E+03	0.12500E+07	0.11682E+01	0.13003E-02	0.32069E+01	0.45754E+02	0.47323E-03
0.94481E-03	0.58727E+03	0.12568E+07	0.11745E+01	0.13084E-02	0.32244E+01	0.45754E+02	0.47621E-03
0.94735E-03	0.59047E+03	0.12637E+07	0.11809E+01	0.13166E-02	0.32419E+01	0.45753E+02	0.47920E-03
0.94989E-03	0.59369E+03	0.12706E+07	0.11874E+01	0.13249E-02	0.32596E+01	0.45753E+02	0.48221E-03
0.95243E-03	0.59692E+03	0.12775E+07	0.11938E+01	0.13332E-02	0.32773E+01	0.45752E+02	0.48523E-03
0.95497E-03	0.60018E+03	0.12845E+07	0.12004E+01	0.13416E-02	0.32951E+01	0.45752E+02	0.48827E-03
0.95751E-03	0.60345E+03	0.12915E+07	0.12069E+01	0.13499E-02	0.33130E+01	0.45751E+02	0.49133E-03
0.96005E-03	0.60674E+03	0.12985E+07	0.12135E+01	0.13584E-02	0.33311E+01	0.45751E+02	0.49440E-03

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.96259E-03	0.61005E+03	0.13056E+07	0.12201E+01	0.13669E-02	0.33492E+01	0.45750E+02	0.49749E-03
0.96513E-03	0.61337E+03	0.13127E+07	0.12267E+01	0.13754E-02	0.33674E+01	0.45750E+02	0.50060E-03
0.96767E-03	0.61671E+03	0.13199E+07	0.12334E+01	0.13840E-02	0.33857E+01	0.45749E+02	0.50372E-03
0.97021E-03	0.62007E+03	0.13271E+07	0.12401E+01	0.13926E-02	0.34041E+01	0.45749E+02	0.50686E-03
0.97275E-03	0.62345E+03	0.13343E+07	0.12469E+01	0.14013E-02	0.34226E+01	0.45748E+02	0.51002E-03
0.97529E-03	0.62685E+03	0.13416E+07	0.12537E+01	0.14100E-02	0.34413E+01	0.45748E+02	0.51320E-03
0.97783E-03	0.63027E+03	0.13489E+07	0.12605E+01	0.14187E-02	0.34600E+01	0.45747E+02	0.51639E-03
0.98037E-03	0.63370E+03	0.13563E+07	0.12674E+01	0.14276E-02	0.34788E+01	0.45747E+02	0.51960E-03
0.98291E-03	0.63716E+03	0.13637E+07	0.12743E+01	0.14364E-02	0.34977E+01	0.45746E+02	0.52283E-03
0.98545E-03	0.64063E+03	0.13711E+07	0.12813E+01	0.14453E-02	0.35167E+01	0.45746E+02	0.52607E-03
0.98799E-03	0.64412E+03	0.13786E+07	0.12882E+01	0.14543E-02	0.35359E+01	0.45745E+02	0.52934E-03
0.99053E-03	0.64763E+03	0.13861E+07	0.12953E+01	0.14633E-02	0.35551E+01	0.45745E+02	0.53262E-03
0.99307E-03	0.65116E+03	0.13937E+07	0.13023E+01	0.14723E-02	0.35744E+01	0.45744E+02	0.53592E-03
0.99561E-03	0.65471E+03	0.14013E+07	0.13094E+01	0.14814E-02	0.35939E+01	0.45743E+02	0.53923E-03
0.99815E-03	0.65828E+03	0.14089E+07	0.13166E+01	0.14906E-02	0.36134E+01	0.45743E+02	0.54257E-03
0.10007E-02	0.66187E+03	0.14166E+07	0.13237E+01	0.14998E-02	0.36331E+01	0.45742E+02	0.54592E-03
0.10032E-02	0.66548E+03	0.14243E+07	0.13310E+01	0.15090E-02	0.36528E+01	0.45742E+02	0.54929E-03
0.10058E-02	0.66911E+03	0.14321E+07	0.13382E+01	0.15183E-02	0.36727E+01	0.45741E+02	0.55268E-03
0.10083E-02	0.67275E+03	0.14399E+07	0.13455E+01	0.15277E-02	0.36927E+01	0.45741E+02	0.55609E-03
0.10108E-02	0.67642E+03	0.14477E+07	0.13528E+01	0.15371E-02	0.37127E+01	0.45740E+02	0.55952E-03
0.10134E-02	0.68011E+03	0.14556E+07	0.13602E+01	0.15466E-02	0.37329E+01	0.45740E+02	0.56296E-03
0.10159E-02	0.68381E+03	0.14635E+07	0.13676E+01	0.15561E-02	0.37532E+01	0.45739E+02	0.56643E-03
0.10185E-02	0.68754E+03	0.14715E+07	0.13751E+01	0.15656E-02	0.37736E+01	0.45738E+02	0.56991E-03
0.10210E-02	0.69129E+03	0.14796E+07	0.13826E+01	0.15752E-02	0.37942E+01	0.45738E+02	0.57341E-03
0.10235E-02	0.69506E+03	0.14876E+07	0.13901E+01	0.15849E-02	0.38148E+01	0.45737E+02	0.57693E-03
0.10261E-02	0.69884E+03	0.14958E+07	0.13977E+01	0.15946E-02	0.38355E+01	0.45737E+02	0.58047E-03
0.10286E-02	0.70265E+03	0.15039E+07	0.14053E+01	0.16044E-02	0.38564E+01	0.45736E+02	0.58403E-03
0.10312E-02	0.70648E+03	0.15121E+07	0.14130E+01	0.16142E-02	0.38774E+01	0.45735E+02	0.58761E-03
0.10337E-02	0.71034E+03	0.15204E+07	0.14207E+01	0.16241E-02	0.38984E+01	0.45735E+02	0.59121E-03
0.10362E-02	0.71421E+03	0.15286E+07	0.14284E+01	0.16340E-02	0.39196E+01	0.45734E+02	0.59483E-03
0.10388E-02	0.71810E+03	0.15370E+07	0.14362E+01	0.16440E-02	0.39410E+01	0.45734E+02	0.59846E-03
0.10413E-02	0.72201E+03	0.15454E+07	0.14440E+01	0.16540E-02	0.39624E+01	0.45733E+02	0.60212E-03
0.10439E-02	0.72595E+03	0.15538E+07	0.14519E+01	0.16641E-02	0.39839E+01	0.45732E+02	0.60580E-03
0.10464E-02	0.72991E+03	0.15623E+07	0.14598E+01	0.16743E-02	0.40056E+01	0.45732E+02	0.60950E-03
0.10489E-02	0.73389E+03	0.15708E+07	0.14678E+01	0.16845E-02	0.40274E+01	0.45731E+02	0.61321E-03
0.10515E-02	0.73789E+03	0.15794E+07	0.14758E+01	0.16947E-02	0.40493E+01	0.45731E+02	0.61695E-03
0.10540E-02	0.74191E+03	0.15880E+07	0.14838E+01	0.17050E-02	0.40713E+01	0.45730E+02	0.62071E-03
0.10566E-02	0.74595E+03	0.15966E+07	0.14919E+01	0.17154E-02	0.40934E+01	0.45729E+02	0.62449E-03
0.10591E-02	0.75002E+03	0.16053E+07	0.15000E+01	0.17258E-02	0.41157E+01	0.45729E+02	0.62829E-03
0.10616E-02	0.75411E+03	0.16141E+07	0.15082E+01	0.17363E-02	0.41381E+01	0.45728E+02	0.63211E-03
0.10642E-02	0.75822E+03	0.16229E+07	0.15164E+01	0.17468E-02	0.41606E+01	0.45727E+02	0.63595E-03
0.10667E-02	0.76235E+03	0.16317E+07	0.15247E+01	0.17574E-02	0.41832E+01	0.45727E+02	0.63981E-03
0.10693E-02	0.76651E+03	0.16406E+07	0.15330E+01	0.17681E-02	0.42059E+01	0.45726E+02	0.64370E-03
0.10718E-02	0.77068E+03	0.16496E+07	0.15414E+01	0.17788E-02	0.42288E+01	0.45725E+02	0.64760E-03
0.10743E-02	0.77489E+03	0.16586E+07	0.15498E+01	0.17896E-02	0.42518E+01	0.45725E+02	0.65153E-03
0.10769E-02	0.77911E+03	0.16676E+07	0.15582E+01	0.18004E-02	0.42749E+01	0.45724E+02	0.65547E-03
0.10794E-02	0.78336E+03	0.16767E+07	0.15667E+01	0.18113E-02	0.42981E+01	0.45723E+02	0.65944E-03
0.10820E-02	0.78763E+03	0.16859E+07	0.15753E+01	0.18222E-02	0.43215E+01	0.45723E+02	0.66343E-03
0.10845E-02	0.79192E+03	0.16951E+07	0.15838E+01	0.18332E-02	0.43450E+01	0.45722E+02	0.66744E-03
0.10870E-02	0.79624E+03	0.17043E+07	0.15925E+01	0.18443E-02	0.43686E+01	0.45721E+02	0.67148E-03
0.10896E-02	0.80058E+03	0.17136E+07	0.16012E+01	0.18554E-02	0.43924E+01	0.45721E+02	0.67553E-03
0.10921E-02	0.80494E+03	0.17230E+07	0.16099E+01	0.18666E-02	0.44162E+01	0.45720E+02	0.67961E-03
0.10947E-02	0.80933E+03	0.17324E+07	0.16187E+01	0.18779E-02	0.44402E+01	0.45719E+02	0.68371E-03
0.10972E-02	0.81374E+03	0.17418E+07	0.16275E+01	0.18892E-02	0.44644E+01	0.45719E+02	0.68783E-03

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.10997E-02	0.81818E+03	0.17513E+07	0.16364E+01	0.19005E-02	0.44887E+01	0.45718E+02	0.69198E-03
0.11023E-02	0.82264E+03	0.17609E+07	0.16453E+01	0.19120E-02	0.45131E+01	0.45717E+02	0.69614E-03
0.11048E-02	0.82712E+03	0.17705E+07	0.16542E+01	0.19235E-02	0.45376E+01	0.45717E+02	0.70033E-03
0.11074E-02	0.83163E+03	0.17801E+07	0.16633E+01	0.19350E-02	0.45623E+01	0.45716E+02	0.70455E-03
0.11099E-02	0.83616E+03	0.17898E+07	0.16723E+01	0.19466E-02	0.45871E+01	0.45715E+02	0.70878E-03
0.11124E-02	0.84072E+03	0.17996E+07	0.16814E+01	0.19583E-02	0.46120E+01	0.45714E+02	0.71304E-03
0.11150E-02	0.84531E+03	0.18094E+07	0.16906E+01	0.19701E-02	0.46371E+01	0.45714E+02	0.71732E-03
0.11175E-02	0.84991E+03	0.18193E+07	0.16998E+01	0.19819E-02	0.46623E+01	0.45713E+02	0.72163E-03
0.11201E-02	0.85455E+03	0.18292E+07	0.17091E+01	0.19937E-02	0.46876E+01	0.45712E+02	0.72596E-03
0.11226E-02	0.85921E+03	0.18392E+07	0.17184E+01	0.20057E-02	0.47131E+01	0.45712E+02	0.73031E-03
0.11251E-02	0.86389E+03	0.18492E+07	0.17278E+01	0.20177E-02	0.47387E+01	0.45711E+02	0.73466E-03
0.11277E-02	0.86860E+03	0.18593E+07	0.17372E+01	0.20298E-02	0.47645E+01	0.45710E+02	0.73909E-03
0.11302E-02	0.87333E+03	0.18694E+07	0.17467E+01	0.20419E-02	0.47904E+01	0.45709E+02	0.74351E-03
0.11328E-02	0.87809E+03	0.18796E+07	0.17562E+01	0.20541E-02	0.48164E+01	0.45709E+02	0.74796E-03
0.11353E-02	0.88288E+03	0.18899E+07	0.17658E+01	0.20664E-02	0.48426E+01	0.45708E+02	0.75243E-03
0.11378E-02	0.88769E+03	0.19002E+07	0.17754E+01	0.20787E-02	0.48689E+01	0.45707E+02	0.75693E-03
0.11404E-02	0.89253E+03	0.19106E+07	0.17851E+01	0.20911E-02	0.48953E+01	0.45706E+02	0.76145E-03
0.11429E-02	0.89740E+03	0.19210E+07	0.17948E+01	0.21036E-02	0.49220E+01	0.45706E+02	0.76600E-03
0.11455E-02	0.90229E+03	0.19315E+07	0.18046E+01	0.21161E-02	0.49487E+01	0.45705E+02	0.77057E-03
0.11480E-02	0.90721E+03	0.19420E+07	0.18144E+01	0.21287E-02	0.49756E+01	0.45704E+02	0.77516E-03
0.11505E-02	0.91216E+03	0.19526E+07	0.18243E+01	0.21414E-02	0.50026E+01	0.45703E+02	0.77978E-03
0.11531E-02	0.91713E+03	0.19633E+07	0.18343E+01	0.21541E-02	0.50298E+01	0.45703E+02	0.78443E-03
0.11556E-02	0.92213E+03	0.19740E+07	0.18443E+01	0.21669E-02	0.50572E+01	0.45702E+02	0.78910E-03
0.11582E-02	0.92716E+03	0.19847E+07	0.18543E+01	0.21798E-02	0.50846E+01	0.45701E+02	0.79380E-03
0.11607E-02	0.93221E+03	0.19956E+07	0.18644E+01	0.21927E-02	0.51123E+01	0.45700E+02	0.79852E-03
0.11632E-02	0.93729E+03	0.20064E+07	0.18746E+01	0.22058E-02	0.51401E+01	0.45699E+02	0.80327E-03
0.11658E-02	0.94240E+03	0.20174E+07	0.18848E+01	0.22189E-02	0.51680E+01	0.45699E+02	0.80804E-03
0.11683E-02	0.94754E+03	0.20284E+07	0.18951E+01	0.22320E-02	0.51961E+01	0.45698E+02	0.81284E-03
0.11709E-02	0.95271E+03	0.20395E+07	0.19054E+01	0.22452E-02	0.52243E+01	0.45697E+02	0.81767E-03
0.11734E-02	0.95790E+03	0.20506E+07	0.19158E+01	0.22586E-02	0.52527E+01	0.45696E+02	0.82252E-03
0.11759E-02	0.96312E+03	0.20618E+07	0.19262E+01	0.22719E-02	0.52812E+01	0.45695E+02	0.82740E-03
0.11785E-02	0.96837E+03	0.20730E+07	0.19367E+01	0.22854E-02	0.53099E+01	0.45695E+02	0.83231E-03
0.11810E-02	0.97365E+03	0.20843E+07	0.19473E+01	0.22989E-02	0.53388E+01	0.45694E+02	0.83724E-03
0.11836E-02	0.97896E+03	0.20957E+07	0.19579E+01	0.23125E-02	0.53678E+01	0.45693E+02	0.84220E-03
0.11861E-02	0.98430E+03	0.21071E+07	0.19686E+01	0.23262E-02	0.53970E+01	0.45692E+02	0.84718E-03
0.11886E-02	0.98966E+03	0.21186E+07	0.19793E+01	0.23399E-02	0.54263E+01	0.45691E+02	0.85220E-03
0.11912E-02	0.99506E+03	0.21302E+07	0.19901E+01	0.23537E-02	0.54558E+01	0.45690E+02	0.85724E-03
0.11937E-02	0.10005E+04	0.21418E+07	0.20010E+01	0.23676E-02	0.54854E+01	0.45690E+02	0.86231E-03
0.11963E-02	0.10059E+04	0.21535E+07	0.20119E+01	0.23816E-02	0.55152E+01	0.45689E+02	0.86740E-03
0.11988E-02	0.10114E+04	0.21652E+07	0.20228E+01	0.23956E-02	0.55452E+01	0.45688E+02	0.87253E-03
0.12013E-02	0.10169E+04	0.21771E+07	0.20339E+01	0.24098E-02	0.55753E+01	0.45687E+02	0.87768E-03
0.12039E-02	0.10225E+04	0.21889E+07	0.20450E+01	0.24240E-02	0.56056E+01	0.45686E+02	0.88286E-03
0.12064E-02	0.10281E+04	0.22009E+07	0.20561E+01	0.24382E-02	0.56361E+01	0.45685E+02	0.88807E-03
0.12089E-02	0.10337E+04	0.22129E+07	0.20673E+01	0.24526E-02	0.56667E+01	0.45684E+02	0.89330E-03
0.12115E-02	0.10393E+04	0.22250E+07	0.20786E+01	0.24670E-02	0.56975E+01	0.45684E+02	0.89857E-03
0.12140E-02	0.10450E+04	0.22371E+07	0.20899E+01	0.24815E-02	0.57284E+01	0.45683E+02	0.90386E-03
0.12166E-02	0.10507E+04	0.22493E+07	0.21013E+01	0.24961E-02	0.57595E+01	0.45682E+02	0.90918E-03
0.12191E-02	0.10564E+04	0.22616E+07	0.21128E+01	0.25108E-02	0.57908E+01	0.45681E+02	0.91453E-03
0.12216E-02	0.10622E+04	0.22739E+07	0.21243E+01	0.25255E-02	0.58223E+01	0.45680E+02	0.91992E-03
0.12242E-02	0.10679E+04	0.22863E+07	0.21359E+01	0.25404E-02	0.58539E+01	0.45679E+02	0.92533E-03
0.12267E-02	0.10738E+04	0.22988E+07	0.21475E+01	0.25553E-02	0.58857E+01	0.45678E+02	0.93076E-03
0.12293E-02	0.10796E+04	0.23113E+07	0.21592E+01	0.25703E-02	0.59177E+01	0.45677E+02	0.93623E-03
0.12318E-02	0.10855E+04	0.23240E+07	0.21710E+01	0.25853E-02	0.59498E+01	0.45676E+02	0.94173E-03
0.12343E-02	0.10914E+04	0.23366E+07	0.21828E+01	0.26005E-02	0.59822E+01	0.45675E+02	0.94726E-03

35

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.12369E-02	0.10974E+04	0.23494E+07	0.21947E+01	0.26157E-02	0.60146E+01	0.45675E+02	0.95282E-03
0.12394E-02	0.11034E+04	0.23622E+07	0.22067E+01	0.26310E-02	0.60473E+01	0.45674E+02	0.95841E-03
0.12420E-02	0.11094E+04	0.23751E+07	0.22187E+01	0.26464E-02	0.60802E+01	0.45673E+02	0.96403E-03
0.12445E-02	0.11154E+04	0.23881E+07	0.22308E+01	0.26619E-02	0.61132E+01	0.45672E+02	0.96968E-03
0.12470E-02	0.11215E+04	0.24011E+07	0.22430E+01	0.26775E-02	0.61464E+01	0.45671E+02	0.97536E-03
0.12496E-02	0.11276E+04	0.24142E+07	0.22552E+01	0.26931E-02	0.61798E+01	0.45670E+02	0.98107E-03
0.12521E-02	0.11338E+04	0.24274E+07	0.22675E+01	0.27089E-02	0.62133E+01	0.45669E+02	0.98682E-03
0.12547E-02	0.11399E+04	0.24406E+07	0.22799E+01	0.27247E-02	0.62471E+01	0.45668E+02	0.99259E-03
0.12572E-02	0.11462E+04	0.24539E+07	0.22923E+01	0.27406E-02	0.62810E+01	0.45667E+02	0.99840E-03
0.12597E-02	0.11524E+04	0.24673E+07	0.23048E+01	0.27566E-02	0.63151E+01	0.45666E+02	0.10042E-02
0.12623E-02	0.11587E+04	0.24808E+07	0.23174E+01	0.27727E-02	0.63494E+01	0.45665E+02	0.10101E-02
0.12648E-02	0.11650E+04	0.24943E+07	0.23300E+01	0.27889E-02	0.63839E+01	0.45664E+02	0.10160E-02
0.12674E-02	0.11714E+04	0.25079E+07	0.23427E+01	0.28051E-02	0.64186E+01	0.45663E+02	0.10219E-02
0.12699E-02	0.11778E+04	0.25216E+07	0.23555E+01	0.28215E-02	0.64534E+01	0.45662E+02	0.10279E-02
0.12724E-02	0.11842E+04	0.25354E+07	0.23684E+01	0.28379E-02	0.64885E+01	0.45661E+02	0.10339E-02
0.12750E-02	0.11906E+04	0.25492E+07	0.23813E+01	0.28544E-02	0.65237E+01	0.45660E+02	0.10399E-02
0.12775E-02	0.11971E+04	0.25631E+07	0.23943E+01	0.28710E-02	0.65591E+01	0.45659E+02	0.10460E-02
0.12801E-02	0.12037E+04	0.25771E+07	0.24073E+01	0.28877E-02	0.65948E+01	0.45658E+02	0.10521E-02
0.12826E-02	0.12102E+04	0.25912E+07	0.24204E+01	0.29045E-02	0.66306E+01	0.45657E+02	0.10582E-02
0.12851E-02	0.12168E+04	0.26053E+07	0.24336E+01	0.29214E-02	0.66666E+01	0.45656E+02	0.10644E-02
0.12877E-02	0.12235E+04	0.26195E+07	0.24469E+01	0.29384E-02	0.67028E+01	0.45655E+02	0.10706E-02
0.12902E-02	0.12301E+04	0.26338E+07	0.24602E+01	0.29555E-02	0.67392E+01	0.45654E+02	0.10768E-02
0.12928E-02	0.12368E+04	0.26482E+07	0.24737E+01	0.29726E-02	0.67758E+01	0.45653E+02	0.10831E-02
0.12953E-02	0.12436E+04	0.26627E+07	0.24871E+01	0.29899E-02	0.68126E+01	0.45652E+02	0.10894E-02
0.12978E-02	0.12504E+04	0.26772E+07	0.25007E+01	0.30072E-02	0.68496E+01	0.45651E+02	0.10957E-02
0.13004E-02	0.12572E+04	0.26918E+07	0.25143E+01	0.30247E-02	0.68867E+01	0.45650E+02	0.11021E-02
0.13029E-02	0.12640E+04	0.27065E+07	0.25281E+01	0.30422E-02	0.69241E+01	0.45649E+02	0.11085E-02
0.13055E-02	0.12709E+04	0.27213E+07	0.25418E+01	0.30599E-02	0.69617E+01	0.45648E+02	0.11149E-02
0.13080E-02	0.12779E+04	0.27361E+07	0.25557E+01	0.30776E-02	0.69995E+01	0.45646E+02	0.11214E-02
0.13105E-02	0.12848E+04	0.27510E+07	0.25696E+01	0.30954E-02	0.70375E+01	0.45645E+02	0.11279E-02
0.13131E-02	0.12918E+04	0.27661E+07	0.25837E+01	0.31133E-02	0.70757E+01	0.45654E+02	0.11345E-02
0.13156E-02	0.12989E+04	0.27812E+07	0.25977E+01	0.31314E-02	0.71141E+01	0.45643E+02	0.11410E-02
0.13182E-02	0.13060E+04	0.27963E+07	0.26119E+01	0.31495E-02	0.71528E+01	0.45642E+02	0.11477E-02
0.13207E-02	0.13131E+04	0.28116E+07	0.26261E+01	0.31677E-02	0.71916E+01	0.45641E+02	0.11543E-02
0.13232E-02	0.13202E+04	0.28269E+07	0.26405E+01	0.31860E-02	0.72306E+01	0.45640E+02	0.11610E-02
0.13258E-02	0.13274E+04	0.28424E+07	0.26549E+01	0.32044E-02	0.72699E+01	0.45639E+02	0.11677E-02
0.13283E-02	0.13347E+04	0.28579E+07	0.26693E+01	0.32229E-02	0.73094E+01	0.45638E+02	0.11745E-02
0.13309E-02	0.13420E+04	0.28735E+07	0.26839E+01	0.32415E-02	0.73490E+01	0.45636E+02	0.11813E-02
0.13334E-02	0.13493E+04	0.28892E+07	0.26985E+01	0.32603E-02	0.73889E+01	0.45635E+02	0.11881E-02
0.13359E-02	0.13566E+04	0.29049E+07	0.27133E+01	0.32791E-02	0.74290E+01	0.45634E+02	0.11950E-02
0.13385E-02	0.13640E+04	0.29208E+07	0.27281E+01	0.32980E-02	0.74694E+01	0.45633E+02	0.12019E-02
0.13410E-02	0.13715E+04	0.29367E+07	0.27429E+01	0.33170E-02	0.75099E+01	0.45632E+02	0.12088E-02
0.13436E-02	0.13789E+04	0.29528E+07	0.27579E+01	0.33361E-02	0.75507E+01	0.45631E+02	0.12158E-02
0.13461E-02	0.13865E+04	0.29689E+07	0.27729E+01	0.33554E-02	0.75916E+01	0.45630E+02	0.12229E-02
0.13486E-02	0.13940E+04	0.29851E+07	0.27880E+01	0.33747E-02	0.76328E+01	0.45628E+02	0.12299E-02
0.13512E-02	0.14016E+04	0.30014E+07	0.28033E+01	0.33941E-02	0.76743E+01	0.45627E+02	0.12370E-02
0.13537E-02	0.14093E+04	0.30178E+07	0.28185E+01	0.34137E-02	0.77159E+01	0.45626E+02	0.12442E-02
0.13563E-02	0.14170E+04	0.30343E+07	0.28339E+01	0.34333E-02	0.77578E+01	0.45625E+02	0.12513E-02
0.13588E-02	0.14247E+04	0.30508E+07	0.28494E+01	0.34531E-02	0.77999E+01	0.45624E+02	0.12586E-02
0.13613E-02	0.14325E+04	0.30675E+07	0.28649E+01	0.34730E-02	0.78422E+01	0.45622E+02	0.12658E-02
0.13639E-02	0.14403E+04	0.30842E+07	0.28805E+01	0.34929E-02	0.78848E+01	0.45621E+02	0.12731E-02
0.13664E-02	0.14481E+04	0.31011E+07	0.289 2E+01	0.35130E-02	0.79276E+01	0.45620E+02	0.12804E-02
0.13690E-02	0.14560E+04	0.31180E+07	0.29120E+01	0.35332E-02	0.79706E+01	0.45619E+02	0.12878E-02
0.13715E-02	0.14640E+04	0.31350E+07	0.29279E+01	0.35535E-02	0.80138E+01	0.45617E+02	0.12952E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.13740E-02	0.14719E+04	0.31521E+07	0.29439E+01	0.35739E-02	0.80573E+01	0.45616E+02	0.13027E-02
0.13766E-02	0.14800E+04	0.31693E+07	0.29599E+01	0.35944E-02	0.81010E+01	0.45615E+02	0.13102E-02
0.13791E-02	0.14880E+04	0.31866E+07	0.29761E+01	0.36151E-02	0.81450E+01	0.45614E+02	0.13177E-02
0.13817E-02	0.14962E+04	0.32040E+07	0.29923E+01	0.36358E-02	0.81892E+01	0.45612E+02	0.13253E-02
0.13842E-02	0.15043E+04	0.32215E+07	0.30086E+01	0.36567E-02	0.82336E+01	0.45611E+02	0.13329E-02
0.13867E-02	0.15125E+04	0.32391E+07	0.30250E+01	0.36776E-02	0.82783E+01	0.45610E+02	0.13406E-02
0.13893E-02	0.15208E+04	0.32568E+07	0.30415E+01	0.36987E-02	0.83232E+01	0.45609E+02	0.13483E-02
0.13918E-02	0.15291E+04	0.32746E+07	0.30581E+01	0.37199E-02	0.83684E+01	0.45607E+02	0.13560E-02
0.13944E-02	0.15374E+04	0.32924E+07	0.30748E+01	0.37412E-02	0.84138E+01	0.45606E+02	0.13638E-02
0.13969E-02	0.15458E+04	0.33104E+07	0.30916E+01	0.37626E-02	0.84594E+01	0.45605E+02	0.13717E-02
0.13994E-02	0.15542E+04	0.33285E+07	0.31084E+01	0.37842E-02	0.85053E+01	0.45603E+02	0.13795E-02
0.14020E-02	0.15627E+04	0.33467E+07	0.31254E+01	0.38058E-02	0.85515E+01	0.45602E+02	0.13874E-02
0.14045E-02	0.15712E+04	0.33649E+07	0.31424E+01	0.38276E-02	0.85979E+01	0.45601E+02	0.13954E-02
0.14071E-02	0.15798E+04	0.33833E+07	0.31596E+01	0.38495E-02	0.86445E+01	0.45599E+02	0.14034E-02
0.14096E-02	0.15884E+04	0.34018E+07	0.31768E+01	0.38715E-02	0.86914E+01	0.45598E+02	0.14115E-02
0.14121E-02	0.15971E+04	0.34204E+07	0.31941E+01	0.38937E-02	0.87385E+01	0.45597E+02	0.14195E-02
0.14147E-02	0.16058E+04	0.34390E+07	0.32116E+01	0.39159E-02	0.87859E+01	0.45595E+02	0.14277E-02
0.14172E-02	0.16145E+04	0.34578E+07	0.32291E+01	0.39383E-02	0.88336E+01	0.45594E+02	0.14359E-02
0.14198E-02	0.16233E+04	0.34767E+07	0.32467E+01	0.39608E-02	0.88815E+01	0.45593E+02	0.14441E-02
0.14223E-02	0.16322E+04	0.34957E+07	0.32644E+01	0.39834E-02	0.89297E+01	0.45591E+02	0.14524E-02
0.14248E-02	0.16411E+04	0.35148E+07	0.32822E+01	0.40062E-02	0.89781E+01	0.45590E+02	0.14607E-02
0.14274E-02	0.16501E+04	0.35340E+07	0.33001E+01	0.40290E-02	0.90268E+01	0.45588E+02	0.14690E-02
0.14299E-02	0.16591E+04	0.35533E+07	0.33181E+01	0.40520E-02	0.90758E+01	0.45587E+02	0.14774E-02
0.14325E-02	0.16681E+04	0.35727E+07	0.33362E+01	0.40751E-02	0.91250E+01	0.45586E+02	0.14859E-02
0.14350E-02	0.16772E+04	0.35922E+07	0.33544E+01	0.40984E-02	0.91745E+01	0.45584E+02	0.14944E-02
0.14375E-02	0.16863E+04	0.36118E+07	0.33727E+01	0.41217E-02	0.92242E+01	0.45583E+02	0.15029E-02
0.14401E-02	0.16955E+04	0.36315E+07	0.33911E+01	0.41452E-02	0.92742E+01	0.45581E+02	0.15115E-02
0.14426E-02	0.17048E+04	0.36513E+07	0.34096E+01	0.41688E-02	0.93245E+01	0.45580E+02	0.15201E-02
0.14452E-02	0.17141E+04	0.36713E+07	0.34282E+01	0.41926E-02	0.93751E+01	0.45579E+02	0.15288E-02
0.14477E-02	0.17234E+04	0.36913E+07	0.34469E+01	0.42165E-02	0.94259E+01	0.45577E+02	0.15376E-02
0.14502E-02	0.17328E+04	0.37115E+07	0.34657E+01	0.42405E-02	0.94771E+01	0.45576E+02	0.15463E-02
0.14528E-02	0.17423E+04	0.37318E+07	0.34846E+01	0.42646E-02	0.95284E+01	0.45574E+02	0.15552E-02
0.14553E-02	0.17518E+04	0.37521E+07	0.35036E+01	0.42889E-02	0.95801E+01	0.45573E+02	0.15640E-02
0.14579E-02	0.17614E+04	0.37726E+07	0.35227E+01	0.43133E-02	0.96320E+01	0.45571E+02	0.15730E-02
0.14604E-02	0.17710E+04	0.37932E+07	0.35419E+01	0.43378E-02	0.96843E+01	0.45570E+02	0.15819E-02
0.14629E-02	0.17806E+04	0.38140E+07	0.35612E+01	0.43625E-02	0.97368E+01	0.45568E+02	0.15909E-02
0.14655E-02	0.17903E+04	0.38348E+07	0.35807E+01	0.43873E-02	0.97896E+01	0.45567E+02	0.16000E-02
0.14680E-02	0.18001E+04	0.38557E+07	0.36002E+01	0.44122E-02	0.98426E+01	0.45565E+02	0.16091E-02
0.14706E-02	0.18099E+04	0.38768E+07	0.36198E+01	0.44372E-02	0.98960E+01	0.45564E+02	0.16183E-02
0.14731E-02	0.18198E+04	0.38980E+07	0.36396E+01	0.44625E-02	0.99496E+01	0.45562E+02	0.16275E-02
0.14756E-02	0.18297E+04	0.39193E+07	0.36594E+01	0.44878E-02	0.10004E+02	0.45561E+02	0.16368E-02
0.14782E-02	0.18397E+04	0.39407E+07	0.36794E+01	0.45133E-02	0.10058E+02	0.45559E+02	0.16461E-02
0.14807E-02	0.18497E+04	0.39622E+07	0.36995E+01	0.45389E-02	0.10112E+02	0.45557E+02	0.16555E-02
0.14832E-02	0.18598E+04	0.39838E+07	0.37197E+01	0.45646E-02	0.10167E+02	0.45556E+02	0.16649E-02
0.14858E-02	0.18700E+04	0.40056E+07	0.37400E+01	0.45905E-02	0.10222E+02	0.45554E+02	0.16744E-02
0.14883E-02	0.18802E+04	0.40275E+07	0.37604E+01	0.46166E-02	0.10278E+02	0.45553E+02	0.16839E-02
0.14909E-02	0.18904E+04	0.40495E+07	0.37809E+01	0.46427E-02	0.10333E+02	0.45551E+02	0.16935E-02
0.14934E-02	0.19007E+04	0.40716E+07	0.38015E+01	0.46690E-02	0.10389E+02	0.45549E+02	0.17031E-02
0.14959E-02	0.19111E+04	0.40938E+07	0.38222E+01	0.46955E-02	0.10446E+02	0.45548E+02	0.17128E-02
0.14985E-02	0.19215E+04	0.41162E+07	0.38431E+01	0.47221E-02	0.10502E+02	0.45546E+02	0.17225E-02
0.15010E-02	0.19320E+04	0.41387E+07	0.38641E+01	0.47489E-02	0.10559E+02	0.45545E+02	0.17323E-02
0.15036E-02	0.19426E+04	0.41613E+07	0.38851E+01	0.47757E-02	0.10616E+02	0.45543E+02	0.17422E-02
0.15061E-02	0.19532E+04	0.41840E+07	0.39063E+01	0.48028E-02	0.10674E+02	0.45541E+02	0.17520E-02
0.15086E-02	0.19638E+04	0.42069E+07	0.39276E+01	0.48300E-02	0.10732E+02	0.45540E+02	0.17620E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.15112E-02	0.19745E+04	0.42299E+07	0.39491E+01	0.48573E-02	0.10790E+02	0.45538E+02	0.17720E-02
0.15137E-02	0.19853E+04	0.42530E+07	0.39706E+01	0.48848E-02	0.10848E+02	0.45536E+02	0.17821E-02
0.15163E-02	0.19961E+04	0.42762E+07	0.39923E+01	0.49124E-02	0.10907E+02	0.45535E+02	0.17922E-02
0.15188E-02	0.20070E+04	0.42996E+07	0.40141E+01	0.49402E-02	0.10966E+02	0.45533E+02	0.18023E-02
0.15213E-02	0.20180E+04	0.43230E+07	0.40360E+01	0.49681E-02	0.11026E+02	0.45531E+02	0.18126E-02
0.15239E-02	0.20290E+04	0.43467E+07	0.40580E+01	0.49962E-02	0.11085E+02	0.45530E+02	0.18228E-02
0.15264E-02	0.20401E+04	0.43704E+07	0.40801E+01	0.50244E-02	0.11146E+02	0.45528E+02	0.18332E-02
0.15290E-02	0.20512E+04	0.43943E+07	0.41024E+01	0.50528E-02	0.11206E+02	0.45526E+02	0.18436E-02
0.15315E-02	0.20624E+04	0.44183E+07	0.41248E+01	0.50813E-02	0.11267E+02	0.45524E+02	0.18540E-02
0.15340E-02	0.20736E+04	0.44424E+07	0.41473E+01	0.51100E-02	0.11328E+02	0.45523E+02	0.18645E-02
0.15366E-02	0.20849E+04	0.44667E+07	0.41699E+01	0.51389E-02	0.11389E+02	0.45521E+02	0.18751E-02
0.15391E-02	0.20963E+04	0.44911E+07	0.41926E+01	0.51679E-02	0.11451E+02	0.45519E+02	0.18857E-02
0.15417E-02	0.21078E+04	0.45157E+07	0.42155E+01	0.51970E-02	0.11513E+02	0.45517E+02	0.18964E-02
0.15442E-02	0.21193E+04	0.45403E+07	0.42385E+01	0.52264E-02	0.11575E+02	0.45515E+02	0.19071E-02
0.15467E-02	0.21308E+04	0.45651E+07	0.42616E+01	0.52558E-02	0.11638E+02	0.45514E+02	0.19179E-02
0.15493E-02	0.21424E+04	0.45901E+07	0.42849E+01	0.52855E-02	0.11701E+02	0.45512E+02	0.19288E-02
0.15518E-02	0.21541E+04	0.46152E+07	0.43083E+01	0.53153E-02	0.11764E+02	0.45510E+02	0.19397E-02
0.15544E-02	0.21659E+04	0.46404E+07	0.43318E+01	0.53452E-02	0.11828E+02	0.45508E+02	0.19506E-02
0.15569E-02	0.21777E+04	0.46657E+07	0.43554E+01	0.53754E-02	0.11892E+02	0.45506E+02	0.19617E-02
0.15594E-02	0.21896E+04	0.46912E+07	0.43792E+01	0.54056E-02	0.11956E+02	0.45505E+02	0.19728E-02
0.15620E-02	0.22015E+04	0.47169E+07	0.44031E+01	0.54361E-02	0.12021E+02	0.45503E+02	0.19839E-02
0.15645E-02	0.22136E+04	0.47426E+07	0.44271E+01	0.54667E-02	0.12086E+02	0.45501E+02	0.19951E-02
0.15671E-02	0.22256E+04	0.47686E+07	0.44513E+01	0.54975E-02	0.12152E+02	0.45499E+02	0.20064E-02
0.15696E-02	0.22378E+04	0.47946E+07	0.44755E+01	0.55284E-02	0.12217E+02	0.45497E+02	0.20177E-02
0.15721E-02	0.22500E+04	0.48208E+07	0.45000E+01	0.55595E-02	0.12284E+02	0.45495E+02	0.20291E-02
0.15747E-02	0.22623E+04	0.48472E+07	0.45245E+01	0.55908E-02	0.12350E+02	0.45493E+02	0.20406E-02
0.15772E-02	0.22746E+04	0.48737E+07	0.45492E+01	0.56223E-02	0.12417E+02	0.45491E+02	0.20521E-02
0.15798E-02	0.22870E+04	0.49003E+07	0.45740E+01	0.56539E-02	0.12484E+02	0.45489E+02	0.20637E-02
0.15823E-02	0.22995E+04	0.49271E+07	0.45990E+01	0.56857E-02	0.12552E+02	0.45487E+02	0.20754E-02
0.15848E-02	0.23120E+04	0.49540E+07	0.46241E+01	0.57177E-02	0.12620E+02	0.45485E+02	0.20871E-02
0.15874E-02	0.23247E+04	0.49811E+07	0.46493E+01	0.57498E-02	0.12688E+02	0.45484E+02	0.20988E-02
0.15899E-02	0.23373E+04	0.50083E+07	0.46747E+01	0.57821E-02	0.12757E+02	0.45482E+02	0.21107E-02
0.15925E-02	0.23501E+04	0.50357E+07	0.47002E+01	0.58146E-02	0.12826E+02	0.45480E+02	0.21226E-02
0.15950E-02	0.23629E+04	0.50632E+07	0.47259E+01	0.58473E-02	0.12895E+02	0.45478E+02	0.21346E-02
0.15975E-02	0.23758E+04	0.50909E+07	0.47516E+01	0.58801E-02	0.12965E+02	0.45476E+02	0.21466E-02
0.16001E-02	0.23888E+04	0.51187E+07	0.47776E+01	0.59131E-02	0.13035E+02	0.45474E+02	0.21587E-02
0.16026E-02	0.24018E+04	0.51467E+07	0.48036E+01	0.59463E-02	0.13106E+02	0.45472E+02	0.21709E-02
0.16052E-02	0.24149E+04	0.51748E+07	0.48299E+01	0.59797E-02	0.13177E+02	0.45469E+02	0.21831E-02
0.16077E-02	0.24281E+04	0.52031E+07	0.48562E+01	0.60133E-02	0.13248E+02	0.45467E+02	0.21954E-02
0.16102E-02	0.24414E+04	0.52315E+07	0.48827E+01	0.60470E-02	0.13320E+02	0.45465E+02	0.22078E-02
0.16128E-02	0.24547E+04	0.52601E+07	0.49094E+01	0.60809E-02	0.13392E+02	0.45463E+02	0.22202E-02
0.16153E-02	0.24681E+04	0.52889E+07	0.49362E+01	0.61150E-02	0.13464E+02	0.45461E+02	0.22327E-02
0.16179E-02	0.24815E+04	0.53178E+07	0.49631E+01	0.61493E-02	0.13537E+02	0.45459E+02	0.22453E-02
0.16204E-02	0.24951E+04	0.53469E+07	0.49902E+01	0.61838E-02	0.13610E+02	0.45457E+02	0.22579E-02
0.16229E-02	0.25087E+04	0.53761E+07	0.50174E+01	0.62184E-02	0.13684E+02	0.45455E+02	0.22706E-02
0.16255E-02	0.25224E+04	0.54055E+07	0.50448E+01	0.62533E-02	0.13758E+02	0.45453E+02	0.22834E-02
0.16280E-02	0.25362E+04	0.54350E+07	0.50723E+01	0.62883E-02	0.13832E+02	0.45451E+02	0.22963E-02
0.16306E-02	0.25500E+04	0.54648E+07	0.51000E+01	0.63236E-02	0.13907E+02	0.45448E+02	0.23092E-02
0.16331E-02	0.25639E+04	0.54946E+07	0.51279E+01	0.63590E-02	0.13983E+02	0.45446E+02	0.23222E-02
0.16356E-02	0.25779E+04	0.55247E+07	0.51558E+01	0.63946E-02	0.14058E+02	0.45444E+02	0.23352E-02
0.16382E-02	0.25920E+04	0.55549E+07	0.51840E+01	0.64304E-02	0.14134E+02	0.45442E+02	0.23483E-02
0.16407E-02	0.26061E+04	0.55853E+07	0.52123E+01	0.64664E-02	0.14211E+02	0.45440E+02	0.23615E-02
0.16433E-02	0.26204E+04	0.56158E+07	0.52407E+01	0.65026E-02	0.14288E+02	0.45438E+02	0.23748E-02
0.16458E-02	0.26347E+04	0.56465E+07	0.52693E+01	0.65390E-02	0.14365E+02	0.45435E+02	0.23882E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.16483E-02	0.26490E+04	0.56774E+07	0.52981E+01	0.65755E-02	0.14443E+02	0.45433E+02	0.24016E-02
0.16509E-02	0.26635E+04	0.57084E+07	0.53270E+01	0.66123E-02	0.14521E+02	0.45431E+02	0.24151E-02
0.16534E-02	0.26780E+04	0.57396E+07	0.53561E+01	0.66493E-02	0.14599E+02	0.45429E+02	0.24286E-02
0.16560E-02	0.26927E+04	0.57710E+07	0.53853E+01	0.66865E-02	0.14678E+02	0.45426E+02	0.24423E-02
0.16585E-02	0.27074E+04	0.58026E+07	0.54147E+01	0.67239E-02	0.14757E+02	0.45424E+02	0.24560E-02
0.16610E-02	0.27221E+04	0.58343E+07	0.54443E+01	0.67614E-02	0.14837E+02	0.45422E+02	0.24698E-02
0.16636E-02	0.27370E+04	0.58662E+07	0.54740E+01	0.67992E-02	0.14917E+02	0.45419E+02	0.24837E-02
0.16661E-02	0.27519E+04	0.58983E+07	0.55039E+01	0.68372E-02	0.14998E+02	0.45417E+02	0.24976E-02
0.16687E-02	0.27670E+04	0.59305E+07	0.55339E+01	0.68754E-02	0.15079E+02	0.45415E+02	0.25116E-02
0.16712E-02	0.27821E+04	0.59630E+07	0.55641E+01	0.69138E-02	0.15161E+02	0.45412E+02	0.25257E-02
0.16737E-02	0.27972E+04	0.59956E+07	0.55945E+01	0.69524E-02	0.15243E+02	0.45410E+02	0.25399E-02
0.16763E-02	0.28125E+04	0.60284E+07	0.56250E+01	0.69912E-02	0.15325E+02	0.45408E+02	0.25541E-02
0.16788E-02	0.28279E+04	0.60613E+07	0.56557E+01	0.70303E-02	0.15408E+02	0.45405E+02	0.25685E-02
0.16814E-02	0.28433E+04	0.60945E+07	0.56866E+01	0.70695E-02	0.15491E+02	0.45403E+02	0.25829E-02
0.16839E-02	0.28588E+04	0.61278E+07	0.57176E+01	0.71090E-02	0.15575E+02	0.45400E+02	0.25973E-02
0.16864E-02	0.28744E+04	0.61613E+07	0.57489E+01	0.71486E-02	0.15659E+02	0.45398E+02	0.26119E-02
0.16890E-02	0.28901E+04	0.61950E+07	0.57802E+01	0.71885E-02	0.15744E+02	0.45396E+02	0.26265E-02
0.16915E-02	0.29059E+04	0.62289E+07	0.58118E+01	0.72286E-02	0.15829E+02	0.45393E+02	0.26413E-02
0.16941E-02	0.29218E+04	0.62630E+07	0.58435E+01	0.72689E-02	0.15914E+02	0.45391E+02	0.26561E-02
0.16966E-02	0.29377E+04	0.62972E+07	0.58754E+01	0.73094E-02	0.16000E+02	0.45388E+02	0.26709E-02
0.16991E-02	0.29537E+04	0.63317E+07	0.59075E+01	0.73502E-02	0.16087E+02	0.45386E+02	0.26859E-02
0.17017E-02	0.29699E+04	0.63663E+07	0.59397E+01	0.73911E-02	0.16174E+02	0.45383E+02	0.27010E-02
0.17042E-02	0.29861E+04	0.64011E+07	0.59722E+01	0.74323E-02	0.16261E+02	0.45381E+02	0.27161E-02
0.17068E-02	0.30024E+04	0.64362E+07	0.60048E+01	0.74737E-02	0.16349E+02	0.45378E+02	0.27313E-02
0.17093E-02	0.30188E+04	0.64714E+07	0.60376E+01	0.75154E-02	0.16437E+02	0.45376E+02	0.27466E-02
0.17118E-02	0.30353E+04	0.65068E+07	0.60705E+01	0.75572E-02	0.16526E+02	0.45373E+02	0.27620E-02
0.17144E-02	0.30518E+04	0.65424E+07	0.61037E+01	0.75993E-02	0.16616E+02	0.45370E+02	0.27774E-02
0.17169E-02	0.30685E+04	0.65781E+07	0.61370E+01	0.76416E-02	0.16705E+02	0.45368E+02	0.27930E-02
0.17195E-02	0.30852E+04	0.66141E+07	0.61705E+01	0.76842E-02	0.16796E+02	0.45365E+02	0.28086E-02
0.17220E-02	0.31021E+04	0.66503E+07	0.62042E+01	0.77270E-02	0.16886E+02	0.45363E+02	0.28243E-02
0.17245E-02	0.31190E+04	0.66867E+07	0.62381E+01	0.77700E-02	0.16977E+02	0.45360E+02	0.28401E-02
0.17271E-02	0.31361E+04	0.67233E+07	0.62721E+01	0.78132E-02	0.17069E+02	0.45357E+02	0.28560E-02
0.17296E-02	0.31532E+04	0.67601E+07	0.63064E+01	0.78567E-02	0.17161E+02	0.45355E+02	0.28720E-02
0.17322E-02	0.31704E+04	0.67971E+07	0.63408E+01	0.79004E-02	0.17254E+02	0.45352E+02	0.28880E-02
0.17347E-02	0.31877E+04	0.68342E+07	0.63754E+01	0.79443E-02	0.17347E+02	0.45349E+02	0.29042E-02
0.17372E-02	0.32051E+04	0.68716E+07	0.64102E+01	0.79885E-02	0.17441E+02	0.45347E+02	0.29204E-02
0.17398E-02	0.32226E+04	0.69092E+07	0.64452E+01	0.80329E-02	0.17535E+02	0.45344E+02	0.29367E-02
0.17423E-02	0.32402E+04	0.69470E+07	0.64804E+01	0.80776E-02	0.17630E+02	0.45341E+02	0.29532E-02
0.17448E-02	0.32579E+04	0.69851E+07	0.65158E+01	0.81225E-02	0.17725E+02	0.45338E+02	0.29697E-02
0.17474E-02	0.32757E+04	0.70233E+07	0.65514E+01	0.81676E-02	0.17821E+02	0.45336E+02	0.29863E-02
0.17499E-02	0.32936E+04	0.70617E+07	0.65872E+01	0.82130E-02	0.17917E+02	0.45333E+02	0.30029E-02
0.17525E-02	0.33116E+04	0.71004E+07	0.66231E+01	0.82586E-02	0.18014E+02	0.45330E+02	0.30197E-02
0.17550E-02	0.33296E+04	0.71392E+07	0.66593E+01	0.83045E-02	0.18111E+02	0.45327E+02	0.30366E-02
0.17575E-02	0.33478E+04	0.71783E+07	0.66956E+01	0.83506E-02	0.18209E+02	0.45324E+02	0.30535E-02
0.17601E-02	0.33661E+04	0.72176E+07	0.67322E+01	0.83970E-02	0.18307E+02	0.45322E+02	0.30706E-02
0.17626E-02	0.33845E+04	0.72571E+07	0.67690E+01	0.84436E-02	0.18406E+02	0.45319E+02	0.30877E-02
0.17652E-02	0.34030E+04	0.72968E+07	0.68059E+01	0.84905E-02	0.18505E+02	0.45316E+02	0.31050E-02
0.17677E-02	0.34216E+04	0.73367E+07	0.68431E+01	0.85376E-02	0.18605E+02	0.45313E+02	0.31223E-02
0.17702E-02	0.34402E+04	0.73769E+07	0.68805E+01	0.85850E-02	0.18705E+02	0.45310E+02	0.31397E-02
0.17728E-02	0.34590E+04	0.74173E+07	0.69180E+01	0.86326E-02	0.18806E+02	0.45307E+02	0.31573E-02
0.17753E-02	0.34779E+04	0.74579E+07	0.69558E+01	0.86805E-02	0.18908E+02	0.45304E+02	0.31749E-02
0.17779E-02	0.34969E+04	0.74987E+07	0.69938E+01	0.87287E-02	0.19010E+02	0.45301E+02	0.31926E-02
0.17804E-02	0.35160E+04	0.75397E+07	0.70320E+01	0.87771E-02	0.19112E+02	0.45298E+02	0.32104E-02
0.17829E-02	0.35352E+04	0.75810E+07	0.70704E+01	0.88257E-02	0.19215E+02	0.45295E+02	0.32283E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.17855E-02	0.35545E+04	0.76225E+07	0.71090E+01	0.88747E-02	0.19319E+02	0.45292E+02	0.32463E-02
0.17880E-02	0.35739E+04	0.76642E+07	0.71479E+01	0.89239E-02	0.19423E+02	0.45289E+02	0.32644E-02
0.17906E-02	0.35934E+04	0.77062E+07	0.71869E+01	0.89733E-02	0.19528E+02	0.45286E+02	0.32826E-02
0.17931E-02	0.36131E+04	0.77484E+07	0.72261E+01	0.90231E-02	0.19633E+02	0.45283E+02	0.33009E-02
0.17956E-02	0.36328E+04	0.77908E+07	0.72656E+01	0.90731E-02	0.19739E+02	0.45280E+02	0.33193E-02
0.17982E-02	0.36526E+04	0.78334E+07	0.73053E+01	0.91233E-02	0.19846E+02	0.45277E+02	0.33378E-02
0.18007E-02	0.36726E+04	0.78763E+07	0.73452E+01	0.91739E-02	0.19953E+02	0.45274E+02	0.33564E-02
0.18033E-02	0.36927E+04	0.79194E+07	0.73853E+01	0.92247E-02	0.20060E+02	0.45271E+02	0.33751E-02
0.18058E-02	0.37128E+04	0.79628E+07	0.74256E+01	0.92758E-02	0.20169E+02	0.45268E+02	0.33940E-02
0.18083E-02	0.37331E+04	0.80064E+07	0.74662E+01	0.93271E-02	0.20277E+02	0.45265E+02	0.34129E-02
0.18109E-02	0.37535E+04	0.80502E+07	0.75070E+01	0.93788E-02	0.20387E+02	0.45261E+02	0.34319E-02
0.18134E-02	0.37740E+04	0.80943E+07	0.75480E+01	0.94307E-02	0.20496E+02	0.45258E+02	0.34510E-02
0.18160E-02	0.37946E+04	0.81386E+07	0.75892E+01	0.94829E-02	0.20607E+02	0.45255E+02	0.34702E-02
0.18185E-02	0.38153E+04	0.81832E+07	0.76307E+01	0.95354E-02	0.20718E+02	0.45252E+02	0.34895E-02
0.18210E-02	0.38362E+04	0.82280E+07	0.76724E+01	0.95881E-02	0.20830E+02	0.45249E+02	0.35090E-02
0.18236E-02	0.38571E+04	0.82731E+07	0.77143E+01	0.96412E-02	0.20942E+02	0.45245E+02	0.35285E-02
0.18261E-02	0.38782E+04	0.83184E+07	0.77564E+01	0.96945E-02	0.21055E+02	0.45242E+02	0.35482E-02
0.18287E-02	0.38994E+04	0.83639E+07	0.77988E+01	0.97481E-02	0.21168E+02	0.45239E+02	0.35679E-02
0.18312E-02	0.39207E+04	0.84097E+07	0.78414E+01	0.98020E-02	0.21282E+02	0.45235E+02	0.35878E-02
0.18337E-02	0.39421E+04	0.84558E+07	0.78842E+01	0.98562E-02	0.21397E+02	0.45232E+02	0.36078E-02
0.18363E-02	0.39636E+04	0.85021E+07	0.79273E+01	0.99107E-02	0.21512E+02	0.45229E+02	0.36278E-02
0.18388E-02	0.39853E+04	0.85487E+07	0.79706E+01	0.99655E-02	0.21628E+02	0.45225E+02	0.36480E-02
0.18414E-02	0.40071E+04	0.85955E+07	0.80141E+01	0.10021E-01	0.21745E+02	0.45222E+02	0.36683E-02
0.18439E-02	0.40290E+04	0.86426E+07	0.80579E+01	0.10076E-01	0.21862E+02	0.45219E+02	0.36887E-02
0.18464E-02	0.40510E+04	0.86899E+07	0.81019E+01	0.10132E-01	0.21980E+02	0.45215E+02	0.37093E-02
0.18490E-02	0.40731E+04	0.87375E+07	0.81462E+01	0.10188E-01	0.22098E+02	0.45212E+02	0.37299E-02
0.18515E-02	0.40953E+04	0.87854E+07	0.81907E+01	0.10244E-01	0.22217E+02	0.45208E+02	0.37506E-02
0.18541E-02	0.41177E+04	0.88335E+07	0.82354E+01	0.10300E-01	0.22337E+02	0.45205E+02	0.37715E-02
0.18566E-02	0.41402E+04	0.88819E+07	0.82804E+01	0.10357E-01	0.22457E+02	0.45201E+02	0.37925E-02
0.18591E-02	0.41628E+04	0.89305E+07	0.83257E+01	0.10415E-01	0.22578E+02	0.45198E+02	0.38136E-02
0.18617E-02	0.41856E+04	0.89794E+07	0.83712E+01	0.10472E-01	0.22700E+02	0.45194E+02	0.38348E-02
0.18642E-02	0.42085E+04	0.90286E+07	0.84169E+01	0.10530E-01	0.22822E+02	0.45191E+02	0.38561E-02
0.18668E-02	0.42314E+04	0.90781E+07	0.84629E+01	0.10588E-01	0.22945E+02	0.45187E+02	0.38775E-02
0.18693E-02	0.42546E+04	0.91278E+07	0.85091E+01	0.10646E-01	0.23068E+02	0.45183E+02	0.38991E-02
0.18718E-02	0.42778E+04	0.91778E+07	0.85556E+01	0.10705E-01	0.23193E+02	0.45180E+02	0.39207E-02
0.18744E-02	0.43012E+04	0.92281E+07	0.86024E+01	0.10764E-01	0.23317E+02	0.45176E+02	0.39425E-02
0.18769E-02	0.43247E+04	0.92787E+07	0.86494E+01	0.10824E-01	0.23443E+02	0.45173E+02	0.39644E-02
0.18795E-02	0.43483E+04	0.93295E+07	0.86966E+01	0.10883E-01	0.23569E+02	0.45169E+02	0.39865E-02
0.18820E-02	0.43721E+04	0.93806E+07	0.87442E+01	0.10943E-01	0.23696E+02	0.45165E+02	0.40086E-02
0.18845E-02	0.43960E+04	0.94321E+07	0.87919E+01	0.11004E-01	0.23823E+02	0.45162E+02	0.40309E-02
0.18871E-02	0.44200E+04	0.94837E+07	0.88400E+01	0.11064E-01	0.23952E+02	0.45158E+02	0.40533E-02
0.18896E-02	0.44441E+04	0.95357E+07	0.88883E+01	0.11125E-01	0.24081E+02	0.45154E+02	0.40758E-02
0.18922E-02	0.44684E+04	0.95880E+07	0.89369E+01	0.11187E-01	0.24210E+02	0.45150E+02	0.40984E-02
0.18947E-02	0.44928E+04	0.96405E+07	0.89857E+01	0.11248E-01	0.24340E+02	0.45146E+02	0.41212E-02
0.18972E-02	0.45174E+04	0.96933E+07	0.90348E+01	0.11310E-01	0.24471E+02	0.45143E+02	0.41441E-02
0.18998E-02	0.45421E+04	0.97465E+07	0.90842E+01	0.11373E-01	0.24603E+02	0.45139E+02	0.41671E-02
0.19023E-02	0.45669E+04	0.97999E+07	0.91338E+01	0.11435E-01	0.24735E+02	0.45135E+02	0.41902E-02
0.19049E-02	0.45919E+04	0.98536E+07	0.91837E+01	0.11498E-01	0.24868E+02	0.45131E+02	0.42135E-02
0.19074E-02	0.46170E+04	0.99076E+07	0.92339E+01	0.11562E-01	0.25002E+02	0.45127E+02	0.42369E-02
0.19099E-02	0.46422E+04	0.99619E+07	0.92844E+01	0.11625E-01	0.25137E+02	0.45123E+02	0.42604E-02
0.19125E-02	0.46676E+04	0.10017E+08	0.93351E+01	0.11689E-01	0.25272E+02	0.45119E+02	0.42840E-02
0.19150E-02	0.46931E+04	0.10071E+08	0.93861E+01	0.11754E-01	0.25408E+02	0.45115E+02	0.43078E-02
0.19176E-02	0.47187E+04	0.10127E+08	0.94374E+01	0.11818E-01	0.25544E+02	0.45111E+02	0.43317E-02
0.19201E-02	0.47445E+04	0.10182E+08	0.94890E+01	0.11883E-01	0.25681E+02	0.45107E+02	0.43557E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.19226E-02	0.47704E+04	0.10238E+08	0.95409E+01	0.11949E-01	0.25820E+02	0.45103E+02	0.43799E-02
0.19252E-02	0.47965E+04	0.10294E+08	0.95930E+01	0.12015E-01	0.25958E+02	0.45099E+02	0.44042E-02
0.19277E-02	0.48227E+04	0.10351E+08	0.96455E+01	0.12081E-01	0.26098E+02	0.45095E+02	0.44286E-02
0.19303E-02	0.48491E+04	0.10407E+08	0.96982E+01	0.12147E-01	0.26238E+02	0.45091E+02	0.44532E-02
0.19328E-02	0.48756E+04	0.10464E+08	0.97512E+01	0.12214E-01	0.26379E+02	0.45087E+02	0.44779E-02
0.19353E-02	0.49022E+04	0.10522E+08	0.98045E+01	0.12281E-01	0.26521E+02	0.45083E+02	0.45027E-02
0.19379E-02	0.49290E+04	0.10579E+08	0.98581E+01	0.12349E-01	0.26663E+02	0.45079E+02	0.45277E-02
0.19404E-02	0.49560E+04	0.10637E+08	0.99120E+01	0.12417E-01	0.26807E+02	0.45075E+02	0.45528E-02
0.19430E-02	0.49831E+04	0.10696E+08	0.99662E+01	0.12485E-01	0.26951E+02	0.45070E+02	0.45780E-02
0.19455E-02	0.50103E+04	0.10754E+08	0.10021E+02	0.12553E-01	0.27095E+02	0.45066E+02	0.46034E-02
0.19480E-02	0.50377E+04	0.10813E+08	0.10075E+02	0.12622E-01	0.27241E+02	0.45062E+02	0.46289E-02
0.19506E-02	0.50652E+04	0.10873E+08	0.10130E+02	0.12692E-01	0.27387E+02	0.45058E+02	0.46546E-02
0.19531E-02	0.50929E+04	0.10932E+08	0.10186E+02	0.12762E-01	0.27534E+02	0.45053E+02	0.46804E-02
0.19557E-02	0.51208E+04	0.10992E+08	0.10242E+02	0.12832E-01	0.27682E+02	0.45049E+02	0.47063E-02
0.19582E-02	0.51488E+04	0.11053E+08	0.10298E+02	0.12902E-01	0.27831E+02	0.45045E+02	0.47324E-02
0.19607E-02	0.51769E+04	0.11113E+08	0.10354E+02	0.12973E-01	0.27980E+02	0.45040E+02	0.47586E-02
0.19633E-02	0.52052E+04	0.11174E+08	0.10410E+02	0.13044E-01	0.28131E+02	0.45036E+02	0.47850E-02
0.19658E-02	0.52337E+04	0.11235E+08	0.10467E+02	0.13116E-01	0.28282E+02	0.45031E+02	0.48115E-02
0.19684E-02	0.52623E+04	0.11297E+08	0.10525E+02	0.13188E-01	0.28433E+02	0.45027E+02	0.48382E-02
0.19709E-02	0.52911E+04	0.11359E+08	0.10582E+02	0.13260E-01	0.28586E+02	0.45023E+02	0.48650E-02
0.19734E-02	0.53200E+04	0.11421E+08	0.10640E+02	0.13333E-01	0.28739E+02	0.45018E+02	0.48919E-02
0.19760E-02	0.53491E+04	0.11484E+08	0.10698E+02	0.13406E-01	0.28894E+02	0.45013E+02	0.49190E-02
0.19785E-02	0.53783E+04	0.11547E+08	0.10757E+02	0.13480E-01	0.29049E+02	0.45009E+02	0.49463E-02
0.19811E-02	0.54077E+04	0.11610E+08	0.10815E+02	0.13554E-01	0.29205E+02	0.45004E+02	0.49737E-02
0.19836E-02	0.54373E+04	0.11674E+08	0.10875E+02	0.13628E-01	0.29361E+02	0.45000E+02	0.50012E-02
0.19861E-02	0.54670E+04	0.11738E+08	0.10934E+02	0.13703E-01	0.29519E+02	0.44995E+02	0.50289E-02
0.19887E-02	0.54969E+04	0.11802E+08	0.10994E+02	0.13778E-01	0.29677E+02	0.44991E+02	0.50568E-02
0.17912E-02	0.55270E+04	0.11867E+08	0.11054E+02	0.13854E-01	0.29836E+02	0.44986E+02	0.50848E-02
0.19938E-02	0.55572E+04	0.11932E+08	0.11114E+02	0.13930E-01	0.29996E+02	0.44981E+02	0.51129E-02
0.19963E-02	0.55876E+04	0.11998E+08	0.11175E+02	0.14006E-01	0.30157E+02	0.44976E+02	0.51412E-02
0.19988E-02	0.56182E+04	0.12064E+08	0.11236E+02	0.14083E-01	0.30319E+02	0.44972E+02	0.51697E-02
0.20014E-02	0.56489E+04	0.12130E+08	0.11298E+02	0.14160E-01	0.30482E+02	0.44967E+02	0.51983E-02
0.20039E-02	0.56798E+04	0.12196E+08	0.11360E+02	0.14238E-01	0.30645E+02	0.44962E+02	0.52271E-02
0.20065E-02	0.57108E+04	0.12263E+08	0.11422E+02	0.14316E-01	0.30809E+02	0.44957E+02	0.52560E-02
0.20090E-02	0.57421E+04	0.12331E+08	0.11484E+02	0.14394E-01	0.30974E+02	0.44952E+02	0.52851E-02
0.20115E-02	0.57735E+04	0.12398E+08	0.11547E+02	0.14473E-01	0.31140E+02	0.44948E+02	0.53143E-02
0.20141E-02	0.58050E+04	0.12466E+08	0.11610E+02	0.14553E-01	0.31307E+02	0.44943E+02	0.53437E-02
0.20166E-02	0.58368E+04	0.12535E+08	0.11674E+02	0.14632E-01	0.31475E+02	0.44938E+02	0.53733E-02
0.20191E-02	0.58687E+04	0.12604E+08	0.11737E+02	0.14712E-01	0.31644E+02	0.44933E+02	0.54030E-02
0.20217E-02	0.59008E+04	0.12673E+08	0.11802E+02	0.14793E-01	0.31813E+02	0.44928E+02	0.54329E-02
0.20242E-02	0.59331E+04	0.12742E+08	0.11866E+02	0.14874E-01	0.31984E+02	0.44923E+02	0.54630E-02
0.20268E-02	0.59655E+04	0.12812E+08	0.11931E+02	0.14955E-01	0.32155E+02	0.44918E+02	0.54932E-02
0.20293E-02	0.59982E+04	0.12883E+08	0.11996E+02	0.15037E-01	0.32327E+02	0.44913E+02	0.55236E-02
0.20318E-02	0.60310E+04	0.12953E+08	0.12062E+02	0.15120E-01	0.32500E+02	0.44908E+02	0.55541E-02
0.20344E-02	0.60640E+04	0.13024E+08	0.12128E+02	0.15202E-01	0.32674E+02	0.44903E+02	0.55849E-02
0.20369E-02	0.60971E+04	0.13096E+08	0.12194E+02	0.15286E-01	0.32849E+02	0.44897E+02	0.56158E-02
0.20395E-02	0.61305E+04	0.13168E+08	0.12261E+02	0.15369E-01	0.33025E+02	0.44892E+02	0.56468E-02
0.20420E-02	0.61640E+04	0.13240E+08	0.12328E+02	0.15453E-01	0.33202E+02	0.44887E+02	0.56780E-02
0.20445E-02	0.61977E+04	0.13313E+08	0.12395E+02	0.15538E-01	0.33380E+02	0.44882E+02	0.57094E-02
0.20471E-02	0.62316E+04	0.13386E+08	0.12463E+02	0.15623E-01	0.33559E+02	0.44877E+02	0.57410E-02
0.20496E-02	0.62657E+04	0.13459E+08	0.12531E+02	0.15708E-01	0.33738E+02	0.44871E+02	0.57727E-02
0.20522E-02	0.63000E+04	0.13533E+08	0.12600E+02	0.15794E-01	0.33919E+02	0.44866E+02	0.58047E-02
0.20547E-02	0.63345E+04	0.13608E+08	0.12669E+02	0.15881E-01	0.34100E+02	0.44861E+02	0.58367E-02
0.20572E-02	0.63691E+04	0.13682E+08	0.12738E+02	0.15968E-01	0.34283E+02	0.44855E+02	0.58690E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.20598E-02	0.64040E+04	0.13758E+08	0.12808E+02	0.16055E-01	0.34466E+02	0.44850E+02	0.59014E-02
0.20623E-02	0.64390E+04	0.13833E+08	0.12878E+02	0.16143E-01	0.34650E+02	0.44844E+02	0.59341E-02
0.20649E-02	0.64743E+04	0.13909E+08	0.12949E+02	0.16231E-01	0.34836E+02	0.44839E+02	0.59669E-02
0.20674E-02	0.65097E+04	0.13985E+08	0.13019E+02	0.16320E-01	0.35022E+02	0.44833E+02	0.59998E-02
0.20699E-02	0.65453E+04	0.14062E+08	0.13091E+02	0.16409E-01	0.35209E+02	0.44828E+02	0.60330E-02
0.20725E-02	0.65811E+04	0.14140E+08	0.13162E+02	0.16498E-01	0.35398E+02	0.44822E+02	0.60663E-02
0.20750E-02	0.66171E+04	0.14217E+08	0.13234E+02	0.16589E-01	0.35587E+02	0.44817E+02	0.60999E-02
0.20776E-02	0.66533E+04	0.14295E+08	0.13307E+02	0.16679E-01	0.35777E+02	0.44811E+02	0.61336E-02
0.20801E-02	0.66897E+04	0.14374E+08	0.13379E+02	0.16770E-01	0.35968E+02	0.44805E+02	0.61674E-02
0.20826E-02	0.67263E+04	0.14453E+08	0.13453E+02	0.16862E-01	0.36161E+02	0.44800E+02	0.62015E-02
0.20852E-02	0.67631E+04	0.14532E+08	0.13526E+02	0.16954E-01	0.36354E+02	0.44794E+02	0.62358E-02
0.20877E-02	0.68002E+04	0.14612E+08	0.13600E+02	0.17047E-01	0.36548E+02	0.44788E+02	0.62702E-02
0.20903E-02	0.68374E+04	0.14692E+08	0.13675E+02	0.17140E-01	0.36743E+02	0.44783E+02	0.63049E-02
0.20928E-02	0.68748E+04	0.14773E+08	0.13750E+02	0.17233E-01	0.36940E+02	0.44777E+02	0.63397E-02
0.20953E-02	0.69124E+04	0.14854E+08	0.13825E+02	0.17327E-01	0.37137E+02	0.44771E+02	0.63747E-02
0.20979E-02	0.69502E+04	0.14936E+08	0.13900E+02	0.17422E-01	0.37335E+02	0.44765E+02	0.64099E-02
0.21004E-02	0.69883E+04	0.15018E+08	0.13977E+02	0.17517E-01	0.37535E+02	0.44759E+02	0.64453E-02
0.21030E-02	0.70265E+04	0.15100E+08	0.14053E+02	0.17613E-01	0.37735E+02	0.44753E+02	0.64809E-02
0.21055E-02	0.70650E+04	0.15183E+08	0.14130E+02	0.17709E-01	0.37937E+02	0.44747E+02	0.65167E-02
0.21080E-02	0.71037E+04	0.15267E+08	0.14207E+02	0.17805E-01	0.38139E+02	0.44741E+02	0.65527E-02
0.21106E-02	0.71425E+04	0.15351E+08	0.14285E+02	0.17902E-01	0.38343E+02	0.44735E+02	0.65889E-02
0.21131E-02	0.71816E+04	0.15435E+08	0.14363E+02	0.18000E-01	0.38547E+02	0.44729E+02	0.66253E-02
0.21157E-02	0.72209E+04	0.15520E+08	0.14442E+02	0.18098E-01	0.38753E+02	0.44723E+02	0.66618E-02
0.21182E-02	0.72605E+04	0.15605E+08	0.14521E+02	0.18197E-01	0.38960E+02	0.44717E+02	0.66986E-02
0.21207E-02	0.73002E+04	0.15691E+08	0.14600E+02	0.18296E-01	0.39168E+02	0.44711E+02	0.67356E-02
0.21233E-02	0.73402E+04	0.15777E+08	0.14680E+02	0.18396E-01	0.39377E+02	0.44705E+02	0.67728E-02
0.21258E-02	0.73804E+04	0.15864E+08	0.14761E+02	0.18496E-01	0.39587E+02	0.44698E+02	0.68102E-02
0.21284E-02	0.74208E+04	0.15951E+08	0.14842E+02	0.18597E-01	0.39798E+02	0.44692E+02	0.68478E-02
0.21309E-02	0.74614E+04	0.16039E+08	0.14923E+02	0.18698E-01	0.40010E+02	0.44686E+02	0.68856E-02
0.21334E-02	0.75022E+04	0.16127E+08	0.15004E+02	0.18800E-01	0.40223E+02	0.44679E+02	0.69236E-02
0.21360E-02	0.75433E+04	0.16216E+08	0.15087E+02	0.18903E-01	0.40438E+02	0.44673E+02	0.69618E-02
0.21385E-02	0.75846E+04	0.16305E+08	0.15169E+02	0.19006E-01	0.40653E+02	0.44667E+02	0.70002E-02
0.21411E-02	0.76261E+04	0.16395E+08	0.15252E+02	0.19109E-01	0.40870E+02	0.44660E+02	0.70388E-02
0.21436E-02	0.76679E+04	0.16485E+08	0.15336E+02	0.19213E-01	0.41088E+02	0.44654E+02	0.70777E-02
0.21461E-02	0.77099E+04	0.16576E+08	0.15420E+02	0.19318E-01	0.41307E+02	0.44647E+02	0.71167E-02
0.21487E-02	0.77521E+04	0.16667E+08	0.15504E+02	0.19423E-01	0.41527E+02	0.44641E+02	0.71560E-02
0.21512E-02	0.77945E+04	0.16758E+08	0.15589E+02	0.19529E-01	0.41748E+02	0.44634E+02	0.71955E-02
0.21538E-02	0.78372E+04	0.16851E+08	0.15674E+02	0.19635E-01	0.41971E+02	0.44627E+02	0.72352E-02
0.21563E-02	0.78801E+04	0.16943E+08	0.15760E+02	0.19742E-01	0.42194E+02	0.44621E+02	0.72751E-02
0.21588E-02	0.79233E+04	0.17037E+08	0.15847E+02	0.19849E-01	0.42419E+02	0.44614E+02	0.73152E-02
0.21614E-02	0.79667E+04	0.17130E+08	0.15933E+02	0.19957E-01	0.42645E+02	0.44607E+02	0.73556E-02
0.21639E-02	0.80103E+04	0.17224E+08	0.16021E+02	0.20066E-01	0.42872E+02	0.44601E+02	0.73962E-02
0.21665E-02	0.80542E+04	0.17319E+08	0.16108E+02	0.20175E-01	0.43100E+02	0.44594E+02	0.74370E-02
0.21690E-02	0.80983E+04	0.17415E+08	0.16197E+02	0.20285E-01	0.43329E+02	0.44587E+02	0.74780E-02
0.21715E-02	0.81426E+04	0.17510E+08	0.16285E+02	0.20395E-01	0.43560E+02	0.44580E+02	0.75193E-02
0.21741E-02	0.81872E+04	0.17607E+08	0.16374E+02	0.20506E-01	0.43792E+02	0.44573E+02	0.75607E-02
0.21766E-02	0.82321E+04	0.17704E+08	0.16464E+02	0.20618E-01	0.44025E+02	0.44566E+02	0.76024E-02
0.21792E-02	0.82771E+04	0.17801E+08	0.16554E+02	0.20730E-01	0.44259E+02	0.44559E+02	0.76444E-02
0.21817E-02	0.83225E+04	0.17899E+08	0.16645E+02	0.20843E-01	0.44494E+02	0.44552E+02	0.76865E-02
0.21842E-02	0.83681E+04	0.17997E+08	0.16736E+02	0.20956E-01	0.44731E+02	0.44545E+02	0.77289E-02
0.21868E-02	0.84139E+04	0.18096E+08	0.16828E+02	0.21070E-01	0.44969E+02	0.44538E+02	0.77715E-02
0.21893E-02	0.84600E+04	0.18196E+08	0.16920E+02	0.21184E-01	0.45208E+02	0.44531E+02	0.78144E-02
0.21919E-02	0.85063E+04	0.18296E+08	0.17013E+02	0.21299E-01	0.45448E+02	0.44524E+02	0.78575E-02
0.21944E-02	0.85529E+04	0.18397E+08	0.17106E+02	0.21415E-01	0.45690E+02	0.44517E+02	0.79008E-02

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.21969E-02	0.85998E+04	0.18498E+08	0.17200E+02	0.21531E-01	0.45932E+02	0.44509E+02	0.79444E-02
0.21995E-02	0.86469E+04	0.18600E+08	0.17294E+02	0.21648E-01	0.46176E+02	0.44502E+02	0.79882E-02
0.22020E-02	0.86943E+04	0.18702E+08	0.17389E+02	0.21766E-01	0.46422E+02	0.44495E+02	0.80322E-02
0.22046E-02	0.87419E+04	0.1b80⁵E+08	0.17484E+02	0.21884E-01	0.46668E+02	0.44487E+02	0.80765E-02
0.22071E-02	0.87898E+04	0.18909E+08	0.17580E+02	0.22003E-01	0.46916E+02	0.44480E+02	0.81210E-02
0.22096E-02	0.88379E+04	0.19013E+08	0.17676E+02	0.22123E-01	0.47165E+02	0.44472E+02	0.81658E-02
0.22122E-02	0.88864E+04	0.19118E+08	0.17773E+02	0.22243E-01	0.47416E+02	0.44465E+02	0.82108E-02
0.22147E-02	0.89351E+04	0.19223E+08	0.17870E+02	0.22363E-01	0.47667E+02	0.44457E+02	0.82561E-02
0.22173E-02	0.89840E+04	0.19329E+08	0.17968E+02	0.22485E-01	0.47920E+02	0.44450E+02	0.83016E-02
0.22198E-02	0.90332E+04	0.19435E+08	0.18066E+02	0.22607E-01	0.48175E+02	0.44442E+02	0.83473E-02
0.22223E-02	0.90827E+04	0.19542E+08	0.18165E+02	0.22729E-01	0.48430E+02	0.44434E+02	0.83934E-02
0.22249E-02	0.91325E+04	0.19650E+08	0.18265E+02	0.22853E-01	0.48687E+02	0.44427E+02	0.84396E-02
0.22274E-02	0.91825E+04	0.19758E+08	0.18365E+02	0.22977E-01	0.48946E+02	0.44419E+02	0.84861E-02
0.22300E-02	0.92329E+04	0.19867E+08	0.18466E+02	0.23101E-01	0.49205E+02	0.44411E+02	0.85329E-02
0.22325E-02	0.92835E+04	0.19976E+08	0.18567E+02	0.23227E-01	0.49466E+02	0.44403E+02	0.85799E-02
0.22350E-02	0.93343E+04	0.20086E+08	0.18669E+02	0.23353E-01	0.49728E+02	0.44395E+02	0.86272E-02
0.22376E-02	0.93855E+04	0.20197E+08	0.18771E+02	0.23479E-01	0.49992E+02	0.44388E+02	0.86748E-02
0.22401E-02	0.94369E+04	0.20308E+08	0.18874E+02	0.23607E-01	0.50257E+02	0.44380E+02	0.87226E-02
0.22427E-02	0.94887E+04	0.20420E+08	0.18977E+02	0.23735E-01	0.50523E+02	0.44372E+02	0.87706E-02
0.22452E-02	0.95407E+04	0.20533E+08	0.19081E+02	0.23863E-01	0.50791E+02	0.44364E+02	0.88190E-02
0.22477E-02	0.95930E+04	0.20646E+08	0.19186E+02	0.23993E-01	0.51060E+02	0.44355E+02	0.88676E-02
0.22503E-02	0.96455E+04	0.20760E+08	0.19291E+02	0.24123E-01	0.51330E+02	0.44347E+02	0.89164E-02
0.22528E-02	0.96984E+04	0.20874E+08	0.19397E+02	0.24253E-01	0.51602E+02	0.44339E+02	0.89656E-02
0.22554E-02	0.97516E+04	0.20989E+08	0.19503E+02	0.24385E-01	0.51875E+02	0.44331E+02	0.90150E-02
0.22579E-02	0.98050E+04	0.21105E+08	0.19610E+02	0.24517E-01	0.52150E+02	0.44323E+02	0.90646E-02
0.22604E-02	0.98588E+04	0.21221E+08	0.19718E+02	0.24650E-01	0.52426E+02	0.44314E+02	0.91146E-02
0.22630E-02	0.99128E+04	0.21338E+08	0.19826E+02	0.24783E-01	0.52704E+02	0.44306E+02	0.91648E-02
0.22655E-02	0.99672E+04	0.21455E+08	0.19934E+02	0.24917E-01	0.52982E+02	0.44297E+02	0.92153E-02
0.22681E-02	0.10022E+05	0.21574E+08	0.20044E+02	0.25052E-01	0.53263E+02	0.44289E+02	0.92660E-02
0.22706E-02	0.10077E+05	0.21693E+08	0.20153E+02	0.25188E-01	0.53544E+02	0.44280E+02	0.93171E-02
0.22731E-02	0.10132E+05	0.21812E+08	0.20264E+02	0.25324E-01	0.53828E+02	0.44272E+02	0.93684E-02
0.22757E-02	0.10188E+05	0.21932E+08	0.20375E+02	0.25461E-01	0.54112E+02	0.44263E+02	0.94200E-02
0.22782E-02	0.10243E+05	0.22053E+08	0.20487E+02	0.25599E-01	0.54398E+02	0.44255E+02	0.94719E-02
0.22807E-02	0.10300E+05	0.22175E+08	0.20599E+02	0.25738E-01	0.54686E+02	0.44246E+02	0.95241E-02
0.22833E-02	0.10356E+05	0.22297E+08	0.20712E+02	0.25877E-01	0.54975E+02	0.44237E+02	0.95766E-02
0.22858E-02	0.10413E+05	0.22420E+08	0.20826E+02	0.26017E-01	0.55265E+02	0.44228E+02	0.96293E-02
0.22884E-02	0.10470E+05	0.22544E+08	0.20940E+02	0.26158E-01	0.55557E+02	0.44220E+02	0.96823E-02
0.22909E-02	0.10527E+05	0.22668E+08	0.21055E+02	0.26299E-01	0.55851E+02	0.44211E+02	0.97357E-02
0.22934E-02	0.10585E+05	0.22793E+08	0.21170E+02	0.26441E-01	0.56145E+02	0.44202E+02	0.97893E-02
0.22960E-02	0.10643E+05	0.22919E+08	0.21286E+02	0.26584E-01	0.56442E+02	0.44193E+02	0.98432E-02
0.22985E-02	0.10701E+05	0.23045E+08	0.21403E+02	0.26728E-01	0.56740E+02	0.44184E+02	0.98974E-02
0.23011E-02	0.10760E+05	0.23172E+08	0.21520E+02	0.26873E-01	0.57039E+02	0.44175E+02	0.99519E-02
0.23036E-02	0.10819E+05	0.23300E+08	0.21638E+02	0.27018E-01	0.57340E+02	0.44166E+02	0.10007E-01
0.23061E-02	0.10879E+05	0.23429E+08	0.21757E+02	0.27164E-01	0.57643E+02	0.44156E+02	0.10062E-01
0.23087E-02	0.10938E+05	0.23558E+08	0.21876E+02	0.27311E-01	0.57947E+02	0.44147E+02	0.10117E-01
0.23112E-02	0.10998E+05	0.23688E+08	0.21996E+02	0.27458E-01	0.58252E+02	0.44138E+02	0.10173E-01
0.23138E-02	0.11059E+05	0.23818E+08	0.22117E+02	0.27607E-01	0.58560E+02	0.44129E+02	0.10229E-01
0.23163E-02	0.11119E+05	0.23950E+08	0.22238E+02	0.27756E-01	0.58868E+02	0.44119E+02	0.10285E-01
0.23188E-02	0.11180E+05	0.24082E+08	0.22360E+02	0.27906E-01	0.59179E+02	0.44110E+02	0.10342E-01
0.23214E-02	0.11242E+05	0.24215E+08	0.22483E+02	0.28056E-01	0.59490E+02	0.44100E+02	0.10399E-01
0.23239E-02	0.11303E+05	0.24348E+08	0.22606E+02	0.28208E-01	0.59804E+02	0.44091E+02	0.10456E-01
0.23265E-02	0.11365E+05	0.24483E+08	0.22730E+02	0.28360E-01	0.60119E+02	0.44081E+02	0.10514E-01
0.23290E-02	0.11428E+05	0.24618E+08	0.22855E+02	0.28513E-01	0.60435E+02	0.44071E+02	0.10572E-01
0.23315E-02	0.11490E+05	0.24754E+08	0.22981E+02	0.28667E-01	0.60754E+02	0.44062E+02	0.10630E-01

43

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.23341E-02	0.11553E+05	0.24890E+08	0.23107E+02	0.28822E-01	0.61073E+02	0.44052E+02	0.10688E-01
0.23366E-02	0.11617E+05	0.25028E+08	0.23233E+02	0.28977E-01	0.61395E+02	0.44042E+02	0.10747E-01
0.23392E-02	0.11680E+05	0.25166E+08	0.23361E+02	0.29134E-01	0.61718E+02	0.44032E+02	0.10806E-01
0.23417E-02	0.11745E+05	0.25305E+08	0.23489E+02	0.29291E-01	0.62043E+02	0.44022E+02	0.10866E-01
0.23442E-02	0.11809E+05	0.25444E+08	0.23618E+02	0.29449E-01	0.62369E+02	0.44012E+02	0.10926E-01
0.23468E-02	0.11874E+05	0.25585E+08	0.23748E+02	0.29608E-01	0.62697E+02	0.44002E+02	0.10986E-01
0.23493E-02	0.11939E+05	0.25726E+08	0.23878E+02	0.29767E-01	0.63026E+02	0.43992E+02	0.11046E-01
0.23519E-02	0.12004E+05	0.25868E+08	0.24009E+02	0.29928E-01	0.63358E+02	0.43982E+02	0.11107E-01
0.23544E-02	0.12070E+05	0.26011E+08	0.24141E+02	0.30089E-01	0.63691E+02	0.43972E+02	0.11168E-01
0.23569E-02	0.12137E+05	0.26154E+08	0.24273E+02	0.30251E-01	0.64025E+02	0.43962E+02	0.11230E-01
0.23595E-02	0.12203E+05	0.26299E+08	0.24406E+02	0.30414E-01	0.64362E+02	0.43951E+02	0.11292E-01
0.23620E-02	0.12270E+05	0.26444E+08	0.24540E+02	0.30578E-01	0.64700E+02	0.43941E+02	0.11354E-01
0.23646E-02	0.12338E+05	0.26590E+08	0.24675E+02	0.30743E-01	0.65039E+02	0.43931E+02	0.11416E-01
0.23671E-02	0.12405E+05	0.26737E+08	0.24810E+02	0.30909E-01	0.65381E+02	0.43920E+02	0.11479E-01
0.23696E-02	0.12473E+05	0.26885E+08	0.24947E+02	0.31075E-01	0.65724E+02	0.43910E+02	0.11542E-01
0.23722E-02	0.12542E+05	0.27033E+08	0.25084E+02	0.31242E-01	0.66069E+02	0.43899E+02	0.11606E-01
0.23747E-02	0.12611E+05	0.27182E+08	0.25221E+02	0.31411E-01	0.66415E+02	0.43888E+02	0.11670E-01
0.23773E-02	0.12680E+05	0.27333E+08	0.25360E+02	0.31580E-01	0.66764E+02	0.43878E+02	0.11734E-01
0.23798E-02	0.12749E+05	0.27484E+08	0.25499E+02	0.31750E-01	0.67114E+02	0.43867E+02	0.11798E-01
0.23823E-02	0.12819E+05	0.27635E+08	0.25639E+02	0.31921E-01	0.67465E+02	0.43856E+02	0.11863E-01
0.23849E-02	0.12890E+05	0.27788E+08	0.25780E+02	0.32093E-01	0.67819E+02	0.43845E+02	0.11929E-01
0.23874E-02	0.12961E+05	0.27942E+08	0.25921E+02	0.32265E-01	0.68174E+02	0.43834E+02	0.11994E-01
0.23900E-02	0.13032E+05	0.28096E+08	0.26064E+02	0.32439E-01	0.68531E+02	0.43823E+02	0.12060E-01
0.23925E-02	0.13103E+05	0.28251E+08	0.26207E+02	0.32613E-01	0.68890E+02	0.43812E+02	0.12127E-01
0.23950E-02	0.13175E+05	0.28407E+08	0.26351E+02	0.32789E-01	0.69251E+02	0.43801E+02	0.12194E-01
0.23976E-02	0.13248E+05	0.28564E+08	0.26495E+02	0.32965E-01	0.69614E+02	0.43790E+02	0.12261E-01
0.24001E-02	0.13320E+05	0.28722E+08	0.26641E+02	0.33142E-01	0.69978E+02	0.43779E+02	0.12328E-01
0.24027E-02	0.13394E+05	0.28881E+08	0.26787E+02	0.33321E-01	0.70344E+02	0.43767E+02	0.12396E-01
0.24052E-02	0.13467E+05	0.29040E+08	0.26934E+02	0.33500E-01	0.70712E+02	0.43756E+02	0.12464E-01
0.24077E-02	0.13541E+05	0.29201E+08	0.27082E+02	0.33680E-01	0.71082E+02	0.43745E+02	0.12533E-01
0.24103E-02	0.13615E+05	0.29362E+08	0.27231E+02	0.33861E-01	0.71453E+02	0.43733E+02	0.12602E-01
0.24128E-02	0.13690E+05	0.29525E+08	0.27380E+02	0.34043E-01	0.71827E+02	0.43721E+02	0.12671E-01
0.24154E-02	0.13765E+05	0.29688E+08	0.27531E+02	0.34226E-01	0.72202E+02	0.43710E+02	0.12741E-01
0.24179E-02	0.13841E+05	0.29852E+08	0.27682E+02	0.34409E-01	0.72579E+02	0.43698E+02	0.12811E-01
0.24204E-02	0.13917E+05	0.30017E+08	0.27834E+02	0.34594E-01	0.72958E+02	0.43686E+02	0.12881E-01
0.24230E-02	0.13993E+05	0.30183E+08	0.27987E+02	0.34780E-01	0.73339E+02	0.43675E+02	0.12952E-01
0.24255E-02	0.14070E+05	0.30350E+08	0.28141E+02	0.34967E-01	0.73722E+02	0.43663E+02	0.13024E-01
0.24281E-02	0.14148E+05	0.30518E+08	0.28295E+02	0.35155E-01	0.74107E+02	0.43651E+02	0.13095E-01
0.24306E-02	0.14225E+05	0.30686E+08	0.28451E+02	0.35343E-01	0.74493E+02	0.43639E+02	0.13167E-01
0.24331E-02	0.14304E+05	0.30856E+08	0.28607E+02	0.35533E-01	0.74882E+02	0.43627E+02	0.13240E-01
0.24357E-02	0.14382E+05	0.31027E+08	0.28764E+02	0.35724E-01	0.75272E+02	0.43615E+02	0.13313E-01
0.24382E-02	0.14461E+05	0.31198E+08	0.28922E+02	0.35915E-01	0.75665E+02	0.43602E+02	0.13386E-01
0.24408E-02	0.14541E+05	0.31371E+08	0.29081E+02	0.36108E-01	0.76059E+02	0.43590E+02	0.13460E-01
0.24433E-02	0.14620E+05	0.31544E+08	0.29241E+02	0.36302E-01	0.76455E+02	0.43578E+02	0.13534E-01
0.24458E-02	0.14701E+05	0.31719E+08	0.29402E+02	0.36496E-01	0.76854E+02	0.43565E+02	0.13608E-01
0.24484E-02	0.14782E+05	0.31894E+08	0.29563E+02	0.36692E-01	0.77254E+02	0.43553E+02	0.13683E-01
0.24509E-02	0.14863E+05	0.32071E+08	0.29726E+02	0.36889E-01	0.77656E+02	0.43540E+02	0.13758E-01
0.24535E-02	0.14945E+05	0.32248E+08	0.29889E+02	0.37087E-01	0.78060E+02	0.43528E+02	0.13834E-01
0.24560E-02	0.15027E+05	0.32426E+08	0.30053E+02	0.37285E-01	0.78466E+02	0.43515E+02	0.13910E-01
0.24585E-02	0.15109E+05	0.32606E+08	0.30218E+02	0.37485E-01	0.78874E+02	0.43502E+02	0.13987E-01
0.24611E-02	0.15192E+05	0.32786E+08	0.30385E+02	0.37686E-01	0.79284E+02	0.43489E+02	0.14064E-01
0.24636E-02	0.15276E+05	0.32967E+08	0.30552E+02	0.37888E-01	0.79696E+02	0.43477E+02	0.14141E-01
0.24662E-02	0.15360E+05	0.33150E+08	0.30719E+02	0.38091E-01	0.80111E+02	0.43464E+02	0.14219E-01
0.24687E-02	0.15444E+05	0.33333E+08	0.30888E+02	0.38295E-01	0.80527E+02	0.43450E+02	0.14297E-01

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.24712E-02	0.15529E+05	0.33518E+08	0.31058E+02	0.38500E-01	0.80945E+02	0.43437E+02	0.14376E-01
0.24738E-02	0.15614E+05	0.33703E+08	0.31229E+02	0.38706E-01	0.81365E+02	0.43424E+02	0.14455E-01
0.24763E-02	0.15700E+05	0.33890E+08	0.31401E+02	0.38913E-01	0.81788E+02	0.43411E+02	0.14534E-01
0.24789E-02	0.15787E+05	0.34077E+08	0.31573E+02	0.39121E-01	0.82212E+02	0.43398E+02	0.14614E-01
0.24814E-02	0.15873E+05	0.34266E+08	0.31747E+02	0.39331E-01	0.82638E+02	0.43384E+02	0.14695E-01
0.24839E-02	0.15961E+05	0.34456E+08	0.31921E+02	0.39541E-01	0.83067E+02	0.43371E+02	0.14776E-01
0.24865E-02	0.16048E+05	0.34646E+08	0.32097E+02	0.39753E-01	0.83497E+02	0.43357E+02	0.14857E-01
0.24890E-02	0.16137E+05	0.34838E+08	0.32273E+02	0.39965E-01	0.83930E+02	0.43344E+02	0.14939E-01
0.24916E-02	0.16225E+05	0.35031E+08	0.32451E+02	0.40179E-01	0.84365E+02	0.43330E+02	0.15021E-01
0.24941E-02	0.16315E+05	0.35225E+08	0.32629E+02	0.40394E-01	0.84802E+02	0.43316E+02	0.15103E-01
0.24966E-02	0.16404E+05	0.35420E+08	0.32809E+02	0.40610E-01	0.85241E+02	0.43302E+02	0.15187E-01
0.24992E-02	0.16494E+05	0.35616E+08	0.32989E+02	0.40827E-01	0.85682E+02	0.43288E+02	0.15270E-01
0.25017E-02	0.16585E+05	0.35813E+08	0.33170E+02	0.41045E-01	0.86126E+02	0.43274E+02	0.15354E-01
0.25043E-02	0.16676E+05	0.36011E+08	0.33353E+02	0.41264E-01	0.86571E+02	0.43260E+02	0.15439E-01
0.25068E-02	0.16768E+05	0.36211E+08	0.33536E+02	0.41485E-01	0.87019E+02	0.43246E+02	0.15524E-01
0.25093E-02	0.16860E+05	0.36411E+08	0.33721E+02	0.41706E-01	0.87468E+02	0.43232E+02	0.15609E-01
0.25119E-02	0.16953E+05	0.36613E+08	0.33906E+02	0.41929E-01	0.87920E+02	0.43218E+02	0.15695E-01
0.25144E-02	0.17046E+05	0.36816E+08	0.34093E+02	0.42153E-01	0.88375E+02	0.43203E+02	0.15781E-01
0.25170E-02	0.17140E+05	0.37020E+08	0.34280E+02	0.42378E-01	0.88831E+02	9.43189E+02	0.15868E-01
0.25195E-02	0.17234E+05	0.37225E+08	0.34469E+02	0.42604E-01	0.89289E+02	0.43174E+02	0.15955E-01
0.25220E-02	0.17329E+05	0.37431E+08	0.34658E+02	0.42832E-01	0.89750E+02	0.43159E+02	0.16043E-01
0.25246E-02	0.17424E+05	0.37638E+08	0.34849E+02	0.43060E-01	0.90213E+02	0.43145E+02	0.16131E-01
0.25271E-02	0.17520E+05	0.37847E+08	0.35041E+02	0.43290E-01	0.90678E+02	0.43130E+02	0.16220E-01
0.25297E-02	0.17617E+05	0.38056E+08	0.35233E+02	0.43521E-01	0.91146E+02	0.43115E+02	0.16309E-01
0.25322E-02	0.17714E+05	0.38267E+08	0.35427E+02	0.43753E-01	0.91615E+02	0.43100E+02	0.16399E-01
0.25347E-02	0.17811E+05	0.38479E+08	0.35622E+02	0.43986E-01	0.92087E+02	0.43085E+02	0.16489E-01
0.25373E-02	0.17909E+05	0.38692E+08	0.35818E+02	0.44221E-01	0.92562E+02	0.43070E+02	0.16580E-01
0.25398E-02	0.18008E+05	0.38907E+08	0.36015E+02	0.44456E-01	0.93038E+02	0.43055E+02	0.16671E-01
0.25423E-02	0.18107E+05	0.39122E+08	0.36214E+02	0.44693E-01	0.93517E+02	0.43040E+02	0.16763E-01
0.25449E-02	0.18206E+05	0.39339E+08	0.36413E+02	0.44931E-01	0.93998E+02	0.43024E+02	0.16855E-01
0.25474E-02	0.18307E+05	0.39557E+08	0.36613E+02	0.45171E-01	0.94481E+02	0.43009E+02	0.16948E-01
0.25500E-02	0.18407E+05	0.39776E+08	0.36815E+02	0.45411E-01	0.94967E+02	0.42993E+02	0.17041E-01
0.25525E-02	0.18509E+05	0.39997E+08	0.37017E+02	0.45653E-01	0.95455E+02	0.42978E+02	0.17135E-01
0.25550E-02	0.18611E+05	0.40218E+08	0.37221E+02	0.45896E-01	0.95945E+02	0.42962E+02	0.17229E-01
0.25576E-02	0.18713E+05	0.40441E+08	0.37426E+02	0.46140E-01	0.96437E+02	0.42946E+02	0.17324E-01
0.25601E-02	0.18816E+05	0.40665E+08	0.37632E+02	0.46386E-01	0.96932E+02	0.42930E+02	0.17419E-01
0.25627E-02	0.18920E+05	0.40891E+08	0.37839E+02	0.46633E-01	0.97430E+02	0.42914E+02	0.17515E-01
0.25652E-02	0.19024E+05	0.41117E+08	0.38047E+02	0.46881E-01	0.97929E+02	0.42898E+02	0.17612E-01
0.25677E-02	0.19128E+05	0.41345E+08	0.38257E+02	0.47130E-01	0.98431E+02	0.42882E+02	0.17708E-01
0.25703E-02	0.19234E+05	0.41574E+08	0.38467E+02	0.47381E-01	0.98936E+02	0.42866E+02	0.17806E-01
0.25728E-02	0.19340E+05	0.41805E+08	0.38679E+02	0.47633E-01	0.99442E+02	0.42849E+02	0.17904E-01
0.25754E-02	0.19446E+05	0.42037E+08	0.38892E+02	0.47886E-01	0.99952E+02	0.42833E+02	0.18002E-01
0.25779E-02	0.19553E+05	0.42270E+08	0.39106E+02	0.48140E-01	0.10046E+03	0.42816E+02	0.18101E-01
0.25804E-02	0.19661E+05	0.42504E+08	0.39321E+02	0.48396E-01	0.10098E+03	0.42800E+02	0.18201E-01
0.25830E-02	0.19769E+05	0.42740E+08	0.39538E+02	0.48653E-01	0.10149E+03	0.42783E+02	0.18301E-01
0.25855E-02	0.19878E+05	0.42977E+08	0.39756E+02	0.48912E-01	0.10201E+03	0.42766E+02	0.18402E-01
0.25881E-02	0.19987E+05	0.43215E+08	0.39975E+02	0.49172E-01	0.10253E+03	0.42749E+02	0.18503E-01
0.25906E-02	0.20097E+05	0.43454E+08	0.40195E+02	0.49433E-01	0.10306E+03	0.42733E+02	0.18605E-01
0.25931E-02	0.20208E+05	0.43695E+08	0.40416E+02	0.49695E-01	0.10358E+03	0.42715E+02	0.18707E-01
0.25957E-02	0.20319E+05	0.43938E+08	0.40639E+02	0.49959E-01	0.10411E+03	0.42698E+02	0.18810E-01
0.25982E-02	0.20431E+05	0.44181E+08	0.40862E+02	0.50224E-01	0.10464E+03	0.42681E+02	0.18914E-01
0.26008E-02	0.20544E+05	0.44426E+08	0.41087E+02	0.50490E-01	0.10518E+03	0.42664E+02	0.19018E-01
0.26033E-02	0.20657E+05	0.44673E+08	0.41314E+02	0.50758E-01	0.10571E+03	0.42646E+02	0.19122E-01
0.26058E-02	0.20771E+05	0.44920E+08	0.41541E+02	0.51027E-01	0.10625E+03	0.42629E+02	0.19228E-01

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.26084E-02	0.20885E+05	0.45169E+08	0.41770E+02	0.51298E-01	0.10679E+03	0.42611E+02	0.19333E-01
0.26109E-02	0.21000E+05	0.45420E+08	0.42000E+02	0.51570E-01	0.10734E+03	0.42593E+02	0.19440E-01
0.26135E-02	0.21116E+05	0.45672E+08	0.42232E+02	0.51843E-01	0.10788E+03	0.42576E+02	0.19547E-01
0.26160E-02	0.21232E+05	0.45925E+08	0.42464E+02	0.52118E-01	0.10843E+03	0.42558E+02	0.19654E-01
0.26185E-02	0.21349E+05	0.46180E+08	0.42698E+02	0.52394E-01	0.10898E+03	0.42540E+02	0.19762E-01
0.26211E-02	0.21467E+05	0.46436E+08	0.42933E+02	0.52671E-01	0.10954E+03	0.42521E+02	0.19871E-01
0.26236E-02	0.21585E+05	0.46694E+08	0.43170E+02	0.52950E-01	0.11009E+03	0.42503E+02	0.19981E-01
0.26262E-02	0.21704E+05	0.46953E+08	0.43408E+02	0.53231E-01	0.11065E+03	0.42485E+02	0.20090E-01
0.26287E-02	0.21823E+05	0.47213E+08	0.43647E+02	0.53512E-01	0.11121E+03	0.42466E+02	0.20201E-01
0.26312E-02	0.21944E+05	0.47475E+08	0.43887E+02	0.53796E-01	0.11178E+03	0.42448E+02	0.20312E-01
0.26338E-02	0.22065E+05	0.47738E+08	0.44129E+02	0.54080E-01	0.11234E+03	0.42429E+02	0.20424E-01
0.26363E-02	0.22186E+05	0.48003E+08	0.44372E+02	0.54366E-01	0.11291E+03	0.42411E+02	0.20536E-01
0.26389E-02	0.22308E+05	0.48269E+08	0.44617E+02	0.54654E-01	0.11348E+03	0.42392E+02	0.20649E-01
0.26414E-02	0.22431E+05	0.48537E+08	0.44863E+02	0.54943E-01	0.11406E+03	0.42373E+02	0.20763E-01
0.26439E-02	0.22555E+05	0.48806E+08	0.45110E+02	0.55233E-01	0.11463E+03	0.42354E+02	0.20877E-01
0.26465E-02	0.22679E+05	0.49077E+08	0.45359E+02	0.55525E-01	0.11521E+03	0.42335E+02	0.20992E-01
0.26490E-02	0.22804E+05	0.49349E+08	0.45609E+02	0.55818E-01	0.11580E+03	0.42315E+02	0.21108E-01
0.26516E-02	0.22930E+05	0.49623E+08	0.45860E+02	0.56113E-01	0.11638E+03	0.42296E+02	0.21224E-01
0.26541E-02	0.23056E+05	0.49898E+08	0.46113E+02	0.56410E-01	0.11697E+03	0.42277E+02	0.21341E-01
0.26566E-02	0.23183E+05	0.50175E+08	0.46367E+02	0.56707E-01	0.11756E+03	0.42257E+02	0.21458E-01
0.26592E-02	0.23311E+05	0.50454E+08	0.46622E+02	0.57007E-01	0.11815E+03	0.42237E+02	0.21576E-01
0.26617E-02	0.23440E+05	0.50734E+08	0.46879E+02	0.57308E-01	0.11875E+03	0.42218E+02	0.21695E-01
0.26643E-02	0.23569E+05	0.51015E+08	0.47138E+02	0.57610E-01	0.11935E+03	0.42198E+02	0.21814E-01
0.26668E-02	0.23699E+05	0.51298E+08	0.47398E+02	0.57914E-01	0.11995E+03	0.42178E+02	0.21934E-01
0.26693E-02	0.23830E+05	0.51583E+08	0.47659E+02	0.58219E-01	0.12055E+03	0.42157E+02	0.22055E-01
0.26719E-02	0.23961E+05	0.51869E+08	0.47922E+02	0.58526E-01	0.12116E+03	0.42137E+02	0.22176E-01
0.26744E-02	0.24093E+05	0.52157E+08	0.48186E+02	0.58835E-01	0.12177E+03	0.42117E+02	0.22298E-01
0.26770E-02	0.24226E+05	0.52446E+08	0.48452E+02	0.59145E-01	0.12238E+03	0.42096E+02	0.22421E-01
0.26795E-02	0.24359E+05	0.52737E+08	0.48719E+02	0.59456E-01	0.12299E+03	0.42076E+02	0.22545E-01
0.26820E-02	0.24494E+05	0.53030E+08	0.48987E+02	0.59769E-01	0.12361E+03	0.42055E+02	0.22669E-01
0.26846E-02	0.24629E+05	0.53324E+08	0.49258E+02	0.60084E-01	0.12423E+03	0.42034E+02	0.22793E-01
0.26871E-02	0.24765E+05	0.53620E+08	0.49529E+02	0.60400E-01	0.12485E+03	0.42014E+02	0.22919E-01
0.26897E-02	0.24901E+05	0.53917E+08	0.49802E+02	0.60718E-01	0.12548E+03	0.41993E+02	0.23045E-01
0.26922E-02	0.25038E+05	0.54216E+08	0.50077E+02	0.61038E-01	0.12611E+03	0.41971E+02	0.23172E-01
0.26947E-02	0.25177E+05	0.54517E+08	0.50353E+02	0.61359E-01	0.12674E+03	0.41950E+02	0.23299E-01
0.26973E-02	0.25315E+05	0.54820E+08	0.50631E+02	0.61682E-01	0.12737E+03	0.41929E+02	0.23428E-01
0.26998E-02	0.25455E+05	0.55124E+08	0.50910E+02	0.62006E-01	0.12801E+03	0.41907E+02	0.23557E-01
0.27024E-02	0.25595E+05	0.55430E+08	0.51191E+02	0.62332E-01	0.12865E+03	0.41886E+02	0.23686E-01
0.27049E-02	0.25737E+05	0.55737E+08	0.51473E+02	0.62659E-01	0.12929E+03	0.41864E+02	0.23817E-01
0.27074E-02	0.25879E+05	0.56046E+08	0.51757E+02	0.62989E-01	0.12994E+03	0.41842E+02	0.23948E-01
0.27100E-02	0.26021E+05	0.56357E+08	0.52042E+02	0.63319E-01	0.13059E+03	0.41820E+02	0.24079E-01
0.27125E-02	0.26165E+05	0.56670E+08	0.52330E+02	0.63652E-01	0.13124E+03	0.41798E+02	0.24212E-01
0.27151E-02	0.26309E+05	0.56984E+08	0.52618E+02	0.63986E-01	0.13189E+03	0.41776E+02	0.24345E-01
0.27176E-02	0.26454E+05	0.57300E+08	0.52908E+02	0.64322E-01	0.13255E+03	0.41753E+02	0.24479E-01
0.27201E-02	0.26600E+05	0.57618E+08	0.53200E+02	0.64659E-01	0.13321E+03	0.41731E+02	0.24614E-01
0.27227E-02	0.26747E+05	0.57938E+08	0.53494E+02	0.64999E-01	0.13387E+03	0.41708E+02	0.24750E-01
0.27252E-02	0.26894E+05	0.58259E+08	0.53789E+02	0.65339E-01	0.13453E+03	0.41686E+02	0.24886E-01
0.27278E-02	0.27043E+05	0.58583E+08	0.54086E+02	0.65682E-01	0.13520E+03	0.41663E+02	0.25023E-01
0.27303E-02	0.27192E+05	0.58908E+08	0.54384E+02	0.66026E-01	0.13587E+03	0.41640E+02	0.25161E-01
0.27328E-02	0.27342E+05	0.59234E+08	0.54684E+02	0.66372E-01	0.13655E+03	0.41617E+02	0.25299E-01
0.27354E-02	0.27493E+05	0.59563E+08	0.54986E+02	0.66720E-01	0.13722E+03	0.41594E+02	0.25438E-01
0.27379E-02	0.27645E+05	0.59893E+08	0.55289E+02	0.67069E-01	0.13790E+03	0.41570E+02	0.25578E-01
0.27405E-02	0.27797E+05	0.60226E+08	0.55594E+02	0.67420E-01	0.13859E+03	0.41547E+02	0.25719E-01
0.27430E-02	0.27951E+05	0.60560E+08	0.55901E+02	0.67773E-01	0.13927E+03	0.41523E+02	0.25861E-01

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.27455E-02	0.28105E+05	0.60895E+08	0.56210E+02	0.68128E-01	0.13996E+03	0.41499E+02	0.26003E-01
0.27481E-02	0.28260E+05	0.61233E+08	0.56520E+02	0.68484E-01	0.14065E+03	0.41476E+02	0.26146E-01
0.27506E-02	0.28416E+05	0.61573E+08	0.56832E+02	0.68842E-01	0.14135E+03	0.41452E+02	0.26290E-01
0.27532E-02	0.28573E+05	0.61914E+08	0.57145E+02	0.69202E-01	0.14204E+03	0.41428E+02	0.26435E-01
0.27557E-02	0.28730E+05	0.62258E+08	0.57461E+02	0.69564E-01	0.14274E+03	0.41403E+02	0.26580E-01
0.27582E-02	0.28889E+05	0.62603E+08	0.57778E+02	0.69927E-01	0.14345E+03	0.41379E+02	0.26727E-01
0.27608E-02	0.29048E+05	0.62950E+08	0.58097E+02	0.70292E-01	0.14415E+03	0.41354E+02	0.26874E-01
0.27633E-02	0.29209E+05	0.63299E+08	0.58417E+02	0.70659E-01	0.14486E+03	0.41330E+02	0.27022E-01
0.27659E-02	0.29370E+05	0.63650E+08	0.58740E+02	0.71028E-01	0.14557E+03	0.41305E+02	0.27171E-01
0.27684E-02	0.29532E+05	0.64003E+08	0.59064E+02	0.71399E-01	0.14629E+03	0.41280E+02	0.27320E-01
0.27709E-02	0.29695E+05	0.64358E+08	0.59390E+02	0.71771E-01	0.14701E+03	0.41255E+02	0.27471E-01
0.27735E-02	0.29859E+05	0.64715E+08	0.59718E+02	0.72146E-01	0.14773E+03	0.41230E+02	0.27622E-01
0.27760E-02	0.30024E+05	0.65073E+08	0.60047E+02	0.72522E-01	0.14845E+03	0.41204E+02	0.27774E-01
0.27786E-02	0.30189E+05	0.65434E+08	0.60379E+02	0.72900E-01	0.14918E+03	0.41179E+02	0.27927E-01
0.27811E-02	0.30356E+05	0.65797E+08	0.60712E+02	0.73280E-01	0.14991E+03	0.41153E+02	0.28081E-01
0.27836E-02	0.30524E+05	0.66161E+08	0.61047E+02	0.73661E-01	0.15064E+03	0.41127E+02	0.28235E-01
0.27862E-02	0.30692E+05	0.66528E+08	0.61384E+02	0.74045E-01	0.15138E+03	0.41102E+02	0.28391E-01
0.27887E-02	0.30862E+05	0.66897E+08	0.61723E+02	0.74430E-01	0.15212E+03	0.41075E+02	0.28547E-01
0.27913E-02	0.31032E+05	0.67267E+08	0.62064E+02	0.74817E-01	0.15286E+03	0.41049E+02	0.28704E-01
0.27938E-02	0.31203E+05	0.67640E+08	0.62407E+02	0.75207E-01	0.15361E+03	0.41023E+02	0.28862E-01
0.27963E-02	0.31376E+05	0.68015E+08	0.62751E+02	0.75598E-01	0.15435E+03	0.40996E+02	0.29021E-01
0.27989E-02	0.31549E+05	0.68392E+08	0.63098E+02	0.75991E-01	0.15511E+03	0.40970E+02	0.29181E-01
0.28014E-02	0.31723E+05	0.68771E+08	0.63446E+02	0.76386E-01	0.15586E+03	0.40943E+02	0.29342E-01
0.28040E-02	0.31898E+05	0.69152E+08	0.63796E+02	0.76782E-01	0.15662E+03	0.40916E+02	0.29504E-01
0.28065E-02	0.32074E+05	0.69535E+08	0.64149E+02	0.77181E-01	0.15738E+03	0.40889E+02	0.29666E-01
0.28090E-02	0.32251E+05	0.69920E+08	0.64503E+02	0.77582E-01	0.15814E+03	0.40862E+02	0.29829E-01
0.28116E-02	0.32429E+05	0.70307E+08	0.64859E+02	0.77984E-01	0.15891E+03	0.40834E+02	0.29994E-01
0.28141E-02	0.32608E+05	0.70696E+08	0.65217E+02	0.78389E-01	0.15968E+03	0.40807E+02	0.30159E-01
0.28166E-02	0.32789E+05	0.71088E+08	0.65577E+02	0.78796E-01	0.16045E+03	0.40779E+02	0.30325E-01
0.28192E-02	0.32970E+05	0.71481E+08	0.65939E+02	0.79204E-01	0.16123E+03	0.40751E+02	0.30492E-01
0.28217E-02	0.33152E+05	0.71877E+08	0.66303E+02	0.79615E-01	0.16201E+03	0.40723E+02	0.30660E-01
0.28243E-02	0.33335E+05	0.72275E+08	0.66669E+02	0.80027E-01	0.16279E+03	0.40695E+02	0.30829E-01
0.28268E-02	0.33519E+05	0.72675E+08	0.67038E+02	0.80441E-01	0.16357E+03	0.40667E+02	0.30999E-01
0.28293E-02	0.33704E+05	0.73077E+08	0.67408E+02	0.80858E-01	0.16436E+03	0.40638E+02	0.31169E-01
0.28319E-02	0.33890E+05	0.73481E+08	0.67780E+02	0.81276E-01	0.16515E+03	0.40610E+02	0.31341E-01
0.28344E-02	0.34077E+05	0.73888E+08	0.68154E+02	0.81697E-01	0.16595E+03	0.40581E+02	0.31514E-01
0.28370E-02	0.34265E+05	0.74297E+08	0.68531E+02	0.82119E-01	0.16674E+03	0.40552E+02	0.31687E-01
0.28395E-02	0.34455E+05	0.74708E+08	0.68909E+02	0.82544E-01	0.16754E+03	0.40523E+02	0.31862E-01
0.28420E-02	0.34645E+05	0.75121E+08	0.69290E+02	0.82970E-01	0.16835E+03	0.40494E+02	0.32037E-01
0.28446E-02	0.34836E+05	0.75536E+08	0.69672E+02	0.83399E-01	0.16915E+03	0.40464E+02	0.32214E-01
0.28471E-02	0.35028E+05	0.75954E+08	0.70057E+02	0.83830E-01	0.16996E+03	0.40435E+02	0.32391E-01
0.28497E-02	0.35222E+05	0.76374E+08	0.70444E+02	0.84262E-01	0.17078E+03	0.40405E+02	0.32570E-01
0.28522E-02	0.35416E+05	0.76796E+08	0.70833E+02	0.84697E-01	0.17159E+03	0.40375E+02	0.32749E-01
0.28547E-02	0.35612E+05	0.77220E+08	0.71224E+02	0.85134E-01	0.17241E+03	0.40345E+02	0.32929E-01
0.28573E-02	0.35809E+05	0.77647E+08	0.71617E+02	0.85573E-01	0.17323E+03	0.40315E+02	0.33111E-01
0.28598E-02	0.36006E+05	0.78076E+08	0.72013E+02	0.86014E-01	0.17406E+03	0.40284E+02	0.33293E-01
0.28624E-02	0.36205E+05	0.78507E+08	0.72411E+02	0.86457E-01	0.17489E+03	0.40254E+02	0.33477E-01
0.28649E-02	0.36405E+05	0.78941E+08	0.72810E+02	0.86902E-01	0.17572E+03	0.40223E+02	0.33661E-01
0.28674E-02	0.36606E+05	0.79377E+08	0.73213E+02	0.87350E-01	0.17655E+03	0.40192E+02	0.33846E-01
0.28700E-02	0.36808E+05	0.79815E+08	0.73617E+02	0.87799E-01	0.17739E+03	0.40161E+02	0.34033E-01
0.28725E-02	0.37012E+05	0.80256E+08	0.74023E+02	0.88251E-01	0.17823E+03	0.40130E+02	0.34220E-01
0.28751E-02	0.37216E+05	0.80699E+08	0.74432E+02	0.88704E-01	0.17908E+03	0.40099E+02	0.34409E-01
0.28776E-02	0.37422E+05	0.81145E+08	0.74843E+02	0.89160E-01	0.17992E+03	0.40067E+02	0.34598E-01
0.28801E-02	0.37628E+05	0.81592E+08	0.75257E+02	0.89618E-01	0.18077E+03	0.40035E+02	0.34789E-01

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.28827E-02	0.37836E+05	0.82042E+08	0.75672E+02	0.90079E-01	0.18163E+03	0.40003E+02	0.34981E-01
0.28852E-02	0.38045E+05	0.82495E+08	0.76090E+02	0.90541E-01	0.18248E+03	0.39971E+02	0.35173E-01
0.28878E-02	0.38255E+05	0.82950E+08	0.76510E+02	0.91006E-01	0.18334E+03	0.39939E+02	0.35367E-01
0.28903E-02	0.38466E+05	0.83407E+08	0.76933E+02	0.91472E-01	0.18421E+03	0.39906E+02	0.35562E-01
0.28928E-02	0.38679E+05	0.83867E+08	0.77358E+02	0.91941E-01	0.18507E+03	0.39874E+02	0.35758E-01
0.28954E-02	0.38892E+05	0.84329E+08	0.77785E+02	0.92412E-01	0.18594E+03	0.39841E+02	0.35955E-01
0.28979E-02	0.39107E+05	0.84794E+08	0.78214E+02	0.92886E-01	0.18681E+03	0.39808E+02	0.36153E-01
0.29005E-02	0.39323E+05	0.85261E+08	0.78646E+02	0.93361E-01	0.18769E+03	0.39775E+02	0.36352E-01
0.29030E-02	0.39540E+05	0.85731E+08	0.79081E+02	0.93839E-01	0.18857E+03	0.39741E+02	0.36553E-01
0.29055E-02	0.39759E+05	0.86203E+08	0.79517E+02	0.94319E-01	0.18945E+03	0.39708E+02	0.36754E-01
0.29081E-02	0.39978E+05	0.86678E+08	0.79956E+02	0.94801E-01	0.19033E+03	0.39674E+02	0.36957E-01
0.29106E-02	0.40199E+05	0.87155E+08	0.80398E+02	0.95286E-01	0.19122E+03	0.39640E+02	0.37160E-01
0.29132E-02	0.40421E+05	0.87634E+08	0.80842E+02	0.95773E-01	0.19211E+03	0.39606E+02	0.37365E-01
0.29157E-02	0.40644E+05	0.88117E+08	0.81288E+02	0.96262E-01	0.19300E+03	0.39572E+02	0.37571E-01
0.29182E-02	0.40868E+05	0.88601E+08	0.81737E+02	0.96753E-01	0.19390E+03	0.39537E+02	0.37778E-01
0.29208E-02	0.41094E+05	0.89088E+08	0.82188E+02	0.97247E-01	0.19480E+03	0.39502E+02	0.37986E-01
0.29233E-02	0.41321E+05	0.89578E+08	0.82642E+02	0.97743E-01	0.19570E+03	0.39467E+02	0.38195E-01
0.29259E-02	0.41549E+05	0.90071E+08	0.83098E+02	0.98241E-01	0.19661E+03	0.39432E+02	0.38406E-01
0.29284E-02	0.41779E+05	0.90565E+08	0.83557E+02	0.98741E-01	0.19751E+03	0.39397E+02	0.38617E-01
0.29309E-02	0.42009E+05	0.91063E+08	0.84018E+02	0.99244E-01	0.19843E+03	0.39362E+02	0.38830E-01
0.29335E-02	0.42241E+05	0.91563E+08	0.84482E+02	0.99749E-01	0.19934E+03	0.39326E+02	0.39044E-01
0.29360E-02	0.42474E+05	0.92066E+08	0.84949E+02	0.10026E+00	0.20026E+03	0.39290E+02	0.39259E-01
0.29386E-02	0.42709E+05	0.92571E+08	0.85418E+02	0.10077E+00	0.20118E+03	0.39254E+02	0.39476E-01
0.29411E-02	0.42945E+05	0.93079E+08	0.85889E+02	0.10128E+00	0.20210E+03	0.39218E+02	0.39693E-01
0.29436E-02	0.43182E+05	0.93590E+08	0.86363E+02	0.10179E+00	0.20303E+03	0.39181E+02	0.39912E-01
0.29462E-02	0.43420E+05	0.94103E+08	0.86840E+02	0.10231E+00	0.20396E+03	0.39145E+02	0.40132E-01
0.29487E-02	0.43660E+05	0.94619E+08	0.87319E+02	0.10283E+00	0.20489E+03	0.39108E+0	0.40353E-01
0.29513E-02	0.43901E+05	0.95137E+08	0.87801E+02	0.10335E+00	0.20583E+03	0.3907	0.40575E-01
0.29538E-02	0.44143E+05	0.95658E+08	0.88286E+02	0.10387E+00	0.20677E+03	0.39033	0.40799E-01
0.29563E-02	0.44386E+05	0.96182E+08	0.88773E+02	0.10440E+00	0.20771E+03	0.38996E+02	0.41024E-01
0.29589E-02	0.44631E+05	0.96709E+08	0.89263E+02	0.10493E+00	0.20865E+03	0.38958E+02	0.41250E-01
0.29614E-02	0.44878E+05	0.97238E+08	0.89755E+02	0.10546E+00	0.20960E+03	0.38920E+02	0.41477E-01
0.29640E-02	0.45125E+05	0.97770E+08	0.90251E+02	0.10599E+00	0.21055E+03	0.38882E+02	0.41706E-01
0.29665E-02	0.45374E+05	0.98304E+08	0.90749E+02	0.10653E+00	0.21150E+03	0.38844E+02	0.41936E-01
0.29690E-02	0.45625E+05	0.98842E+08	0.91249E+02	0.10707E+00	0.21246E+03	0.38806E+02	0.42167E-01
0.29716E-02	0.45876E+05	0.99382E+08	0.91753E+02	0.10761E+00	0.21342E+03	0.38767E+02	0.42399E-01
0.29741E-02	0.46130E+05	0.99925E+08	0.92259E+02	0.10815E+00	0.21438E+03	0.38728E+02	0.42633E-01
0.29767E-02	0.46384E+05	0.10047E+09	0.92768E+02	0.10870E+00	0.21534E+03	0.38689E+02	0.42868E-01
0.29792E-02	0.46640E+05	0.10102E+09	0.93280E+02	0.10925E+00	0.21631E+03	0.38649E+02	0.43104E-01
0.29817E-02	0.46897E+05	0.10157E+09	0.93794E+02	0.10980E+00	0.21728E+03	0.38610E+02	0.43342E-01
0.29843E-02	0.47156E+05	0.10212E+09	0.94312E+02	0.11035E+00	0.21826E+03	0.38570E+02	0.43581E-01
0.29868E-02	0.47416E+05	0.10268E+09	0.94832E+02	0.11091E+00	0.21923E+03	0.38530E+02	0.43821E-01
0.29894E-02	0.47677E+05	0.10324E+09	0.95355E+02	0.11146E+00	0.22021E+03	0.38490E+02	0.44062E-01
0.29919E-02	0.47940E+05	0.10380E+09	0.95881E+02	0.11202E+00	0.22119E+03	0.38449E+02	0.44305E-01
0.29944E-02	0.48205E+05	0.10437E+09	0.96409E+02	0.11259E+00	0.22218E+03	0.38408E+02	0.44549E-01
0.29970E-02	0.48470E+05	0.10494E+09	0.96941E+02	0.11315E+00	0.22316E+03	0.38368E+02	0.44795E-01
0.29995E-02	0.48738E+05	0.10551E+09	0.97475E+02	0.11372E+00	0.22415E+03	0.38326E+02	0.45042E-01
0.30021E-02	0.49006E+05	0.10608E+09	0.98013E+02	0.11429E+00	0.22515E+03	0.38285E+02	0.45290E-01
0.30046E-02	0.49277E+05	0.10666E+09	0.98553E+02	0.11486E+00	0.22614E+03	0.38243E+02	0.45540E-01
0.30071E-02	0.49548E+05	0.10724E+09	0.99096E+02	0.11544E+00	0.22714E+03	0.38202E+02	0.45791E-01
0.30097E-02	0.49821E+05	0.10782E+09	0.99643E+02	0.11602E+00	0.22814E+03	0.38159E+02	0.46043E-01
0.30122E-02	0.50096E+05	0.10840E+09	0.10019E+03	0.11660E+00	0.22914E+03	0.38117E+02	0.46297E-01
0.30148E-02	0.50372E+05	0.10899E+09	0.10074E+03	0.11718E+00	0.23015E+03	0.38075E+02	0.46552E-01
0.30173E-02	0.50649E+05	0.10958E+09	0.10130E+03	0.11777E+00	0.23116E+03	0.38032E+02	0.46809E-01

TIME	PRESSURE	PDOT	XDOT	PROPELLANT BURNT	MDOT	SURFACE	DISTANCE BURNT
0.30198E-02	0.50929E+05	0.11017E+09	0.10186E+03	0.11836E+00	0.23217E+03	0.37989E+02	0.47067E-01
0.30224E-02	0.51209E+05	0.11077E+09	0.10242E+03	0.11895E+00	0.23318E+03	0.37946E+02	0.47326E-01
0.30249E-02	0.51491E+05	0.11137E+09	0.10298E+03	0.11954E+00	0.23420E+03	0.37902E+02	0.47587E-01
0.30275E-02	0.51775E+05	0.11197E+09	0.10355E+03	0.12014E+00	0.23521E+03	0.37858E+02	0.47849E-01
0.30300E-02	0.52060E+05	0.11258E+09	0.10412E+03	0.12074E+00	0.23623E+03	0.37815E+02	0.48113E-01
0.30325E-02	0.52347E+05	0.11319E+09	0.10469E+03	0.12134E+00	0.23726E+03	0.37770E+02	0.48378E-01
0.30351E-02	0.52635E+05	0.11380E+09	0.10527E+03	0.12194E+00	0.23828E+03	0.37726E+02	0.48645E-01
0.30376E-02	0.52925E+05	0.11441E+09	0.10585E+03	0.12255E+00	0.23931E+03	0.37681E+02	0.48913E-01
0.30402E-02	0.53216E+05	0.11503E+09	0.10643E+03	0.12316E+00	0.24034E+03	0.37636E+02	0.49182E-01
0.30427E-02	0.53509E+05	0.11565E+09	0.10702E+03	0.12377E+00	0.24138E+03	0.37591E+02	0.49453E-01
0.30452E-02	0.53804E+05	0.11627E+09	0.10761E+03	0.12438E+00	0.24241E+03	0.37546E+02	0.49726E-01
0.30478E-02	0.54100E+05	0.11690E+09	0.10820E+03	0.12500E+00	0.24345E+03	0.37500E+02	0.50000E-01

APPENDIX B
AN IBHVG2 COMPUTER RUN TO
COMPARE TO THE TEST COMPUTER RUN

```
$COMM
BASELINE TEST FOR CLOSED BOMB FOR FILE FOR SIMPCB
$PDIS
 SHOW='CHWT' DECK='PROP' NTH=2
$PDIS
 SHOW='DIAM' DECK='PROP' NTH=2
$PDIS
 SHOW='SLOT' DECK='PROP' NTH=2
$PDIS
 SHOW='VMUZ' DECK='OUT'
$PDIS
 SHOW='7MUZ(2)' DECK='OUT'
$PDIS
 SHOW='X2BU(2)' DECK='OUT'
$TDIS
 SHOW='BRCH'
$TDIS
 SHOW='TIME'
$TDIS
 SHOW='PDOT'
$TDIS
 SHOW='BR-L'
$TDIS
 SHOW='WTB(1)'
$TDIS
 SHOW='WTBR'
$TDIS
 SHOW='SRF(1)'
$TDIS
 SHOW='DB-L(1)'
$HEAT
 TSHL=.00384 HL=0.0
$GUN
 NAME='CLOSED BOMB'      CHAM=12.51      GRVE=6.2      LARD=6.1
 G/L=1.66 TRAV=207.6 TWST=20
$PROJ
 NAME='M101' PRWT=95
$RESI
 NPTS=2 TRAV=0,1  PRES=10000000,10000000
$INFO
 RUN='CLOSED BOMB *** NO AIR ***'  POPT=1,2,1,2,0
 DELT=2.53981015899ZE-6 DELP=2.53981015899ZE-6 EPS=.000001
$PROP
 NAME='TEST PROPELLANT' CHWT=.125 GRAN='1P'
 LEN=1. DIAM=.25 PD=.05 WEB=.1
 RHO=0.06 GAMA=1.2299 FORC=337762.94 COV=25.0 TEMP=3400
 ALPH=1.0 BETA=.002
$PKIM
 NAME='BLK POWDER'     CHWT=.0002
 GAMA=1.2299 FORC=337762.94   COV=25.0  TEMP=3400
$END
```

─────────────
- GUN TUBE -
─────────────

TYPE: CLOSED BOMB
GROOVE DIAMETER (IN):   6.200
TWIST (CALS/TURN):   20.0

CHAMBER VOLUME (IN3):   12.51   TRAVEL (IN):   207.60
LAND DIAMETER (IN):   6.100   GROOVE/LAND RATIO (-):   1.660
BORE AREA (IN2):   29.8275   HEAT-LOSS OPTION: 0

─────────────
- PROJECTILE -
─────────────

TYPE: M101

TOTAL WEIGHT (LB):   95.000   WEIGHT PREDICTOR OPTION: 0

─────────────
- RESISTANCE -
─────────────

AIR RESISTANCE OPTION: 1

WALL HEATING FRACTION: 0.000   FRICTION TABLE LENGTH: 2

I   TRAVEL (IN)   PRESSURE (PSI)   I   TRAVEL (IN)   PRESSURE (PSI)
1   0.00   10000000.   1   1.00   10000000.

─────────────
- GENERAL -
─────────────

MAX TIME STEP (S):   .000003   PRINT STEP (S):   .000003   MAX RELATIVE ERROR (-):   .00000
PRINT OPTIONS: 1 2 1 0 0 1   STORE OPTION: 0   CONSTANT-PRESSURE OPTION: 0
GRADIENT MODEL: LAGRANGIAN

─────────────
- RECOIL -
─────────────

RECOIL OPTION: 0

TYPE: RECOILING WEIGHT (LB):   0.

─────────────
- PRIMER -
─────────────

TYPE: BLK POWDER
COVOLUME (IN3/LB):   25.000

GAMMA (-):   1.2299   FORCE (FT-LB/LB):   337763.
FLAME TEMP (K):   3400.0   WEIGHT (LB):   .000200

53

```
CLOSED BOMB *** NO AIR ***                I9HVG2.228    14-OCT-86        13:38:2


- CHARGE 1 -

TYPE: TEST PROPELLANT          GRAINS:                  44.210      IP        0        WEIGHT (LB):             0.
EROSIVE COEFF (-1):  0.000000   CHARGE IGN CODE:         0                   .25000    CHARGE IGN AT (S):       .1250
GRAIN LENGTH (IN):   1.00000    CHARGE DIAMETER (IN):    1.0000                        PERF DIAMETER (IN):      .05000
INNER WEB (IN):      .10000     WEB RATIO:

                   PROPERTIES AT LAYER BOUNDARIES OF PERF SURFACES          PROPERTIES AT LAYER BOUNDARIES OF 2ND SURFACES
                      1ST      2ND      3RD      4TH                           1ST      2ND      3RD      4TH

AT DEPTH (IN):       ------   ------   ------   0.00000                      ------   ------   ------   0.00000
ADJACENT LAYER WT %: ------   ------   ------   100.000                      ------   ------   ------   100.000
DENSITY (LB/IN3):    ------   ------   ------   .06000                       ------   ------   ------   .06000
GAMMA (-):           ------   ------   ------   1.2299                       ------   ------   ------   1.2299
FORCE (FT-LB/LB):    ------   ------   ------   337763.                      ------   ------   ------   337763.
COVOLUME (IN3/LB):   ------   ------   ------   25.000                       ------   ------   ------   25.000
FLAME TEMP (K):      ------   ------   ------   3400.0                       ------   ------   ------   3400.0
BURNING RATE EXPS:   ------   ------   ------   1.0000                       ------   ------   ------   1.0000
BURNING RATE COEFFS: ------   ------   ------   .0020000                     ------   ------   ------   .0020000

                   PROPERTIES AT LAYER BOUNDARIES OF LAT SURFACES
                      1ST      2ND      3RD      4TH

AT DEPTH (IN):       ------   ------   ------   0.00000
ADJACENT LAYER WT %: ------   ------   ------   100.000
DENSITY (LB/IN3):    ------   ------   ------   .05000
GAMMA (-):           ------   ------   ------   1.2299
FORCE (FT-LB/LB):    ------   ------   ------   337763.
COVOLUME (IN3/LB):   ------   ------   ------   25.000
FLAME TEMP (K):      ------   ------   ------   3400.0
BURNING RATE EXPS:   ------   ------   ------   1.0000
BURNING RATE COEFFS: ------   ------   ------   .0020000
```

CLOSED BOMB *** NO AIR *** IBHVG2.228 14-OCT-86 10:38:20

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(1)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
77.783	0.	.16641	.15557	0.	.42781	45.833	0.
78.207	.25398E-02	.16731	.15641	.10895E-05	.43014	45.833	.39618E-06
78.633	.50796E-02	.16823	.15727	.21849E-05	.43248	45.833	.79453E-06
79.062	.76194E-02	.16914	.15812	.32864E-05	.43484	45.833	.11952E-05
79.492	.10159E-01	.17006	.15898	.43938E-05	.43721	45.833	.15977E-05
79.925	.12699E-01	.17099	.15985	.55072E-05	.43959	45.833	.20026E-05
80.361	.15239E-01	.17192	.16072	.66267E-05	.44198	45.833	.24097E-05
80.799	.17779E-01	.17286	.16160	.77523E-05	.44439	45.833	.28190E-05
81.239	.20318E-01	.17380	.16248	.88840E-05	.44681	45.833	.32306E-05
81.682	.22858E-01	.17475	.16335	.10022E-04	.44924	45.833	.36444E-05
82.127	.25398E-01	.17570	.16425	.11166E-04	.45169	45.833	.40604E-05
82.574	.27938E-01	.17666	.16515	.12316E-04	.45415	45.833	.44787E-05
83.024	.30478E-01	.17762	.16605	.13473E-04	.45662	45.833	.48992E-05
83.476	.33018E-01	.17859	.16695	.14636E-04	.45911	45.833	.53222E-05
83.931	.35557E-01	.17956	.16786	.15805E-04	.46161	45.832	.57474E-05
84.388	.38097E-01	.18054	.16878	.16981E-04	.46413	45.832	.61743E-05
84.848	.40637E-01	.18152	.16970	.18163E-04	.46665	45.832	.66047E-05
85.311	.43177E-01	.18251	.17062	.19351E-04	.46920	45.832	.70359E-05
85.775	.45717E-01	.18351	.17155	.20545E-04	.47175	45.832	.74714E-05
86.243	.48256E-01	.18451	.17249	.21747E-04	.47432	45.832	.79083E-05
86.713	.50796E-01	.18551	.17343	.22955E-04	.47690	45.832	.83475E-05
87.185	.53336E-01	.18652	.17437	.24170E-04	.47950	45.832	.87892E-05
87.660	.55876E-01	.18754	.17532	.25391E-04	.48211	45.832	.92333E-05
88.138	.58416E-01	.18856	.17628	.26619E-04	.48474	45.832	.96798E-05
88.618	.60955E-01	.18959	.17724	.27853E-04	.48738	45.832	.10129E-04
89.101	.63495E-01	.19062	.17820	.29095E-04	.49003	45.832	.10580E-04
89.586	.66035E-01	.19166	.17917	.30343E-04	.49270	45.831	.11034E-04
90.074	.68575E-01	.19270	.18015	.31597E-04	.49539	45.831	.11492E-04
90.565	.71115E-01	.19375	.18113	.32859E-04	.49809	45.831	.11949E-04
91.058	.73654E-01	.19481	.18212	.34128E-04	.50080	45.831	.12412E-04
91.555	.76194E-01	.19587	.18311	.35403E-04	.50353	45.831	.12874E-04
92.053	.78734E-01	.19694	.18411	.36685E-04	.50627	45.831	.13343E-04
92.555	.81274E-01	.19801	.18511	.37975E-04	.50903	45.831	.13809E-04
93.059	.83814E-01	.19909	.18612	.39271E-04	.51180	45.831	.14281E-04
93.566	.86354E-01	.20018	.18713	.40574E-04	.51459	45.831	.14755E-04
94.076	.88893E-01	.20127	.18815	.41885E-04	.51739	45.831	.15231E-04
94.589	.91433E-01	.20236	.18918	.43202E-04	.52021	45.831	.15710E-04
95.104	.93973E-01	.20347	.19021	.44527E-04	.52304	45.831	.16192E-04
95.622	.96513E-01	.20457	.19124	.45959E-04	.52589	45.831	.16677E-04
96.143	.99053E-01	.20569	.19229	.47199E-04	.52875	45.830	.17164E-04
96.667	.10159	.20681	.19333	.48549E-04	.53163	45.830	.17653E-04
97.194	.10413	.20794	.19439	.49899E-04	.53453	45.830	.18146E-04
97.723	.10667	.20907	.19545	.51260E-04	.53744	45.830	.18641E-04
98.256	.10921	.21021	.19651	.52629E-04	.54037	45.830	.19139E-04
98.791	.11175	.21135	.19758	.54005E-04	.54331	45.830	.19639E-04
99.329	.11429	.21251	.19865	.55389E-04	.54627	45.830	.20142E-04
99.871	.11683	.21366	.19974	.56780E-04	.54925	45.830	.20646E-04

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(L)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
100.41	.11937	.21483	.20083	.58179E-04	.55224	45.830	.21157E-04
100.96	.12191	.21600	.20192	.59585E-04	.55525	45.830	.21668E-04
101.51	.12445	.21718	.20302	.50999E-04	.55827	45.830	.22183E-04
102.06	.12699	.21836	.20413	.62421E-04	.56131	45.830	.22700E-04
102.62	.12953	.21955	.20524	.53851E-04	.56437	45.829	.23219E-04
103.18	.13207	.22075	.20636	.65288E-04	.56744	45.829	.23742E-04
103.74	.13461	.22195	.20748	.56733E-04	.57053	45.829	.24268E-04
104.31	.13715	.22316	.20862	.58186E-04	.57364	45.829	.24796E-04
104.88	.13969	.22437	.20975	.59647E-04	.57676	45.829	.25327E-04
105.45	.14223	.22560	.21089	.71116E-04	.57991	45.829	.25862E-04
106.02	.14477	.22683	.21204	.72593E-04	.58306	45.829	.26399E-04
106.60	.14731	.22806	.21320	.74078E-04	.58624	45.829	.26939E-04
107.18	.14985	.22930	.21436	.75571E-04	.58943	45.829	.27482E-04
107.76	.15239	.23055	.21553	.77072E-04	.59264	45.829	.28028E-04
108.35	.15493	.23181	.21670	.78581E-04	.59587	45.828	.28576E-04
108.94	.15747	.23307	.21788	.80099E-04	.59912	45.828	.29128E-04
109.54	.16001	.23434	.21907	.81624E-04	.60238	45.828	.29683E-04
110.13	.16255	.23562	.22026	.83158E-04	.60566	45.828	.30241E-04
110.73	.16509	.23690	.22146	.84701E-04	.60896	45.828	.30802E-04
111.34	.16763	.23820	.22267	.86252E-04	.61228	45.828	.31366E-04
111.94	.17017	.23949	.22388	.87811E-04	.61561	45.828	.31933E-04
112.55	.17271	.24080	.22510	.89379E-04	.61896	45.828	.32503E-04
113.17	.17525	.24211	.22633	.70955E-04	.62233	45.828	.33077E-04
113.78	.17779	.24343	.22756	.92540E-04	.62572	45.828	.33653E-04
114.40	.18033	.24476	.22880	.94134E-04	.62913	45.828	.34233E-04
115.03	.18287	.24609	.23005	.95736E-04	.63256	45.828	.34815E-04
115.65	.18541	.24743	.23130	.37347E-04	.63600	45.827	.35401E-04
116.28	.18795	.24878	.23256	.98966E-04	.63947	45.827	.35990E-04
116.92	.19049	.25013	.23383	.10060E-03	.64295	45.827	.36582E-04
117.55	.19303	.25150	.23511	.10223E-03	.64645	45.827	.37178E-04
118.19	.19557	.25287	.23639	.10388E-03	.64997	45.827	.37777E-04
118.84	.19811	.25425	.23767	.10553E-03	.65351	45.827	.38379E-04
119.48	.20065	.25563	.23897	.10720E-03	.65707	45.827	.38984E-04
120.14	.20318	.25702	.24027	.10847E-03	.66065	45.827	.39593E-04
120.79	.20572	.25842	.24158	.11055E-03	.66425	45.827	.40204E-04
121.45	.20826	.25983	.24290	.11225E-03	.66787	45.826	.40820E-04
122.11	.21080	.26125	.24422	.11395E-03	.67150	45.826	.41438E-04
122.78	.21334	.26267	.24555	.11566E-03	.67516	45.826	.42060E-04
123.44	.21588	.26410	.24689	.11738E-03	.67884	45.826	.42686E-04
124.12	.21842	.26554	.24823	.11911E-03	.68254	45.826	.43314E-04
124.79	.22096	.26699	.24959	.12084E-03	.68625	45.826	.43947E-04
125.47	.22350	.26844	.25095	.12259E-03	.68999	45.826	.44582E-04
126.16	.22604	.26991	.25231	.12435E-03	.69375	45.825	.45221E-04
126.84	.22858	.27138	.25369	.12612E-03	.69753	45.825	.45864E-04
127.54	.23112	.27246	.25507	.12789E-03	.70133	45.825	.46510E-04
128.23	.23366	.27434	.25646	.12968E-03	.70515	45.825	.47160E-04
128.93	.23620	.27594	.25785	.13147E-03	.70899	45.825	.47813E-04

TRAJECTORY VARIABLES:

/1/	TRAJ	1 BRCH
/2/	TRAJ	1 TIME
/3/	TRAJ	1 PDOT
/4/	TRAJ	1 BR-L
/5/	TRAJ	1 WTB(1)
/6/	TRAJ	1 WTBR
/7/	TRAJ	1 SRF(1)
/8/	TRAJ	1 DB-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
129.63	.23874	.27734	.25926	.13328E-03	.71285	45.825	.48469E-04
130.34	.24128	.27885	.26068	.13509E-03	.71673	45.825	.49130E-04
131.05	.24382	.28037	.26210	.13692E-03	.72063	45.825	.49793E-04
131.76	.24636	.28190	.26352	.13875E-03	.72456	45.825	.50461E-04
132.48	.24890	.28344	.26496	.14060E-03	.72850	45.825	.51132E-04
133.20	.25144	.28498	.26640	.14246E-03	.73247	45.825	.51807E-04
133.93	.25398	.28653	.26785	.14432E-03	.73646	45.825	.52485E-04
134.66	.25652	.28809	.26931	.14620E-03	.74047	45.824	.53167E-04
135.39	.25906	.28966	.27078	.14808E-03	.74450	45.824	.53853E-04
136.13	.26160	.29124	.27226	.14998E-03	.74856	45.824	.54543E-04
136.87	.26414	.29283	.27374	.15188E-03	.75264	45.824	.55236E-04
137.62	.26668	.29443	.27523	.15380E-03	.75673	45.824	.55933E-04
138.37	.26922	.29603	.27673	.15573E-03	.76086	45.824	.56634E-04
139.12	.27176	.29764	.27824	.15767E-03	.76500	45.824	.57337E-04
139.88	.27430	.29927	.27976	.15961E-03	.76917	45.824	.58048E-04
140.64	.27684	.30090	.28128	.16157E-03	.77335	45.824	.58760E-04
141.41	.27938	.30254	.28281	.16354E-03	.77757	45.823	.59477E-04
142.18	.28192	.30418	.28435	.16552E-03	.78180	45.823	.60197E-04
142.95	.28446	.30584	.28590	.16751E-03	.78606	45.823	.60921E-04
143.73	.28700	.30751	.28746	.16952E-03	.79034	45.823	.61649E-04
144.51	.28954	.30918	.28903	.17153E-03	.79464	45.823	.62381E-04
145.30	.29208	.31087	.29060	.17355E-03	.79897	45.823	.63117E-04
146.09	.29462	.31256	.29218	.17559E-03	.80332	45.823	.63857E-04
146.89	.29716	.31427	.29378	.17763E-03	.80770	45.823	.64601E-04
147.69	.29970	.31598	.29538	.17969E-03	.81210	45.822	.65350E-04
148.49	.30224	.31770	.29699	.18176E-03	.81652	45.822	.66102E-04
149.30	.30478	.31943	.29861	.18384E-03	.82097	45.822	.66858E-04
150.12	.30732	.32117	.30023	.18593E-03	.82544	45.822	.67619E-04
150.93	.30986	.32292	.30167	.18803E-03	.82993	45.822	.68383E-04
151.76	.31240	.32468	.30351	.19014E-03	.83445	45.822	.69152E-04
152.58	.31494	.32645	.30517	.19227E-03	.83900	45.822	.69925E-04
153.41	.31748	.32823	.30683	.19441E-03	.84356	45.822	.70702E-04
154.25	.32002	.33002	.30850	.19655E-03	.84816	45.821	.71484E-04
155.09	.32256	.33182	.31018	.19871E-03	.85278	45.821	.72259E-04
155.94	.32510	.33363	.31187	.20089E-03	.85742	45.821	.73059E-04
156.79	.32764	.33544	.31357	.20307E-03	.86209	45.821	.73853E-04
157.64	.33018	.33727	.31528	.20527E-03	.86679	45.821	.74652E-04
158.50	.33272	.33911	.31700	.20747E-03	.87151	45.821	.75455E-04
159.36	.33526	.34096	.31873	.20969E-03	.87625	45.821	.76262E-04
160.23	.33774	.34242	.32045	.21192E-03	.88102	45.821	.77074E-04
161.10	.34033	.34458	.32221	.21417E-03	.88582	45.820	.77890E-04
161.98	.34287	.34656	.32395	.21642E-03	.89065	45.820	.78711E-04
162.86	.34541	.34845	.32573	.21869E-03	.89550	45.820	.79536E-04
163.75	.34795	.35035	.32750	.22097E-03	.90037	45.820	.80365E-04
164.64	.35049	.35226	.32929	.22327E-03	.90528	45.820	.81199E-04
165.54	.35303	.35418	.33108	.22557E-03	.91021	45.820	.82038E-04
166.44	.35557	.35611	.33289	.22789E-03	.91516	45.820	.82881E-04

CLOSED BOMB *** NO AIR ***   IBHVCC.228   14-OCT-86

TRAJECTORY VARIABLES:
/ 1/ TRAJ   1 BRCH
/ 2/ TRAJ   1 TIME
/ 3/ TRAJ   1 PDOT
/ 4/ TRAJ   1 BR-L
/ 5/ TRAJ   1 WTB(1)
/ 6/ TRAJ   1 WTBR
/ 7/ TRAJ   1 SRF(1)
/ 8/ TRAJ   1 DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
167.35	.35811	.35805	.33470	.23022E-03	.92015	45.819	.83729E-04
168.26	.36065	.36000	.33652	.23256E-03	.92516	45.819	.84581E-04
169.18	.36319	.36196	.33835	.23492E-03	.93019	45.819	.85438E-04
170.10	.36573	.36393	.34020	.23729E-03	.93526	45.819	.86300E-04
171.03	.36827	.36592	.34205	.23967E-03	.94035	45.819	.87165E-04
171.96	.37081	.36791	.34392	.24206E-03	.94547	45.819	.88038E-04
172.90	.37335	.36992	.34579	.24447E-03	.95062	45.819	.88913E-04
173.84	.37589	.37193	.34768	.24689E-03	.95580	45.818	.89794E-04
174.79	.37843	.37396	.34957	.24933E-03	.96102	45.818	.90679E-04
175.74	.38097	.37600	.35148	.25177E-03	.96624	45.818	.91573E-04
176.70	.38351	.37805	.35339	.25424E-03	.97152	45.818	.92465E-04
177.66	.38605	.38011	.35532	.25671E-03	.97679	45.818	.93365E-04
178.63	.38859	.38218	.35725	.25920E-03	.98211	45.818	.94270E-04
179.60	.39113	.38426	.35920	.26170E-03	.98746	45.817	.95180E-04
180.58	.39367	.38635	.36116	.26421E-03	.99283	45.817	.96094E-04
181.56	.39621	.38846	.36312	.26674E-03	.99824	45.817	.97014E-04
182.55	.39875	.39058	.36510	.26928E-03	1.0037	45.817	.97930E-04
183.55	.40129	.39270	.36709	.27184E-03	1.0091	45.817	.98869E-04
184.55	.40383	.39484	.36909	.27441E-03	1.0146	45.817	.99804E-04
185.55	.40637	.39700	.37110	.27699E-03	1.0202	45.817	.10074E-03
186.56	.40891	.39916	.37313	.27959E-03	1.0257	45.815	.10169E-03
187.58	.41145	.40134	.37516	.28220E-03	1.0313	45.815	.10264E-03
188.60	.41399	.40352	.37720	.28483E-03	1.0369	45.815	.10359E-03
189.63	.41653	.40572	.37926	.28747E-03	1.0426	45.816	.10455E-03
190.66	.41907	.40793	.38132	.29013E-03	1.0482	45.816	.10552E-03
191.70	.42161	.41016	.38340	.29280E-03	1.0539	45.816	.10649E-03
192.75	.42415	.41239	.38549	.29548E-03	1.0597	45.815	.10747E-03
193.80	.42669	.41464	.38759	.29818E-03	1.0655	45.815	.10845E-03
194.85	.42923	.41690	.38970	.30089E-03	1.0713	45.815	.10944E-03
195.91	.43177	.41917	.39183	.30362E-03	1.0771	45.815	.11043E-03
196.98	.43431	.42145	.39396	.30636E-03	1.0830	45.815	.11143E-03
198.05	.43685	.42375	.39611	.30912E-03	1.0889	45.815	.11243E-03
199.13	.43939	.42606	.39827	.31189E-03	1.0948	45.814	.11344E-03
200.22	.44193	.42838	.40044	.31468E-03	1.1007	45.814	.11445E-03
201.31	.44447	.43072	.40262	.31749E-03	1.1067	45.814	.11547E-03
202.41	.44701	.43306	.40481	.32030E-03	1.1128	45.814	.11650E-03
203.51	.44955	.43542	.40702	.32314E-03	1.1188	45.814	.11753E-03
204.62	.45209	.43780	.40924	.32599E-03	1.1249	45.814	.11857E-03
205.73	.45463	.44018	.41147	.32885E-03	1.1310	45.813	.11961E-03
206.85	.45717	.44258	.41371	.33173E-03	1.1372	45.813	.12065E-03
207.98	.45971	.44499	.41596	.33463E-03	1.1434	45.813	.12171E-03
209.11	.46225	.44742	.41823	.33754E-03	1.1496	45.813	.12277E-03
210.25	.46479	.44986	.42051	.34047E-03	1.1559	45.813	.12383E-03
211.40	.46733	.45231	.42280	.34341E-03	1.1622	45.313	.12491E-03
212.55	.46986	.45477	.42510	.34637E-03	1.1685	45.812	.12598E-03
213.71	.47240	.45725	.42742	.34935E-03	1.1749	45.812	.12707E-03
214.87	.47494	.45974	.42975	.35234E-03	1.1813	45.812	.12615E-03

CLOSED BOMB *** NO AIR ***   IBHVG2.228   14-OCT-86

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(I)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(I)
/ 8/	TRAJ	1	UB-L(I)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
216.05	.47748	.46225	.43209	.35535E-03	1.1877	45.812	.12925E-03
217.22	.48002	.46477	.43445	.35837E-03	1.1942	45.812	.13035E-03
218.41	.48256	.46730	.43681	.36141E-03	1.2007	45.811	.13145E-03
219.63	.48510	.46985	.43919	.36447E-03	1.2072	45.811	.13257E-03
220.79	.48764	.47241	.44159	.36755E-03	1.2138	45.811	.13369E-03
222.00	.49018	.47498	.44399	.37064E-03	1.2204	45.811	.13481E-03
223.21	.49272	.47757	.44641	.37375E-03	1.2270	45.811	.13594E-03
224.42	.49526	.48017	.44884	.37687E-03	1.2337	45.810	.13708E-03
225.64	.49780	.48279	.45129	.38001E-03	1.2404	45.810	.13822E-03
226.87	.50034	.48542	.45375	.38317E-03	1.2472	45.810	.13937E-03
228.11	.50288	.48807	.45622	.38635E-03	1.2540	45.810	.14053E-03
229.35	.50542	.49073	.45871	.38954E-03	1.2608	45.810	.14169E-03
230.60	.50796	.49340	.46121	.39275E-03	1.2677	45.810	.14256E-03
231.86	.51050	.49609	.46372	.39598E-03	1.2746	45.809	.14403E-03
233.12	.51304	.49879	.46625	.39923E-03	1.2815	45.809	.14521E-03
234.39	.51558	.50151	.46879	.40249E-03	1.2885	45.809	.14643E-03
235.67	.51812	.50425	.47134	.40577E-03	1.2955	45.809	.14759E-03
236.95	.52066	.50699	.47391	.40907E-03	1.3025	45.808	.14879E-03
238.25	.52320	.50976	.47649	.41239E-03	1.3096	45.808	.15000E-03
239.54	.52574	.51254	.47909	.41572E-03	1.3168	45.808	.15121E-03
240.85	.52828	.51533	.48170	.41908E-03	1.3239	45.808	.15243E-03
242.16	.53082	.51814	.48432	.42245E-03	1.3311	45.808	.15365E-03
243.48	.53336	.52096	.48696	.42584E-03	1.3384	45.808	.15489E-03
244.81	.53590	.52380	.48962	.42925E-03	1.3457	45.807	.15613E-03
246.14	.53844	.52666	.49228	.43267E-03	1.3530	45.807	.15738E-03
247.48	.54098	.52953	.49497	.43612E-03	1.3604	45.807	.15863E-03
248.83	.54352	.53241	.49766	.43958E-03	1.3678	45.807	.15990E-03
250.19	.54606	.53531	.50038	.44307E-03	1.3752	45.806	.16116E-03
251.55	.54860	.53823	.50310	.44657E-03	1.3827	45.806	.16244E-03
252.92	.55114	.54116	.50584	.45009E-03	1.3902	45.806	.16372E-03
254.30	.55368	.54411	.50860	.45363E-03	1.3978	45.805	.16501E-03
255.69	.55622	.54708	.51137	.45719E-03	1.4054	45.805	.16630E-03
257.08	.55876	.55006	.51416	.46077E-03	1.4131	45.805	.16760E-03
258.46	.56130	.55306	.51695	.46437E-03	1.4208	45.805	.16891E-03
259.89	.56384	.55607	.51978	.46799E-03	1.4285	45.805	.17023E-03
261.30	.56638	.55910	.52261	.47163E-03	1.4363	45.805	.17155E-03
262.73	.56892	.56215	.52546	.47528E-03	1.4441	45.805	.17288E-03
264.16	.57146	.56521	.52832	.47896E-03	1.4520	45.804	.17422E-03
265.60	.57400	.56829	.53120	.48266E-03	1.4599	45.804	.17557E-03
267.05	.57654	.57139	.53409	.48638E-03	1.4678	45.804	.17692E-03
268.50	.57908	.57451	.53700	.49012E-03	1.4758	45.804	.17828E-03
269.97	.58162	.57764	.53993	.49387E-03	1.4838	45.803	.17965E-03
271.44	.58416	.58079	.54287	.49765E-03	1.4919	45.803	.18102E-03
272.92	.58670	.58395	.54583	.50145E-03	1.5003	45.803	.18241E-03
274.40	.58924	.58713	.54881	.50527E-03	1.5082	45.803	.18380E-03
275.90	.59178	.59033	.55180	.50911E-03	1.5164	45.802	.18514E-03
277.40	.59432	.59355	.55480	.51297E-03	1.5247	45.802	.18656E-03

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDUT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(1)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
278.91	.59685	.59679	.55783	.51686E-03	1.5330	45.802	.18801E-03
280.43	.59940	.60004	.56087	.52076E-03	1.5413	45.802	.18943E-03
281.96	.60194	.60331	.56392	.52469E-03	1.5497	45.802	.19086E-03
283.50	.60447	.60660	.56699	.52863E-03	1.5581	45.801	.19233E-03
285.04	.60701	.60990	.57008	.53260E-03	1.5665	45.801	.19374E-03
286.60	.60955	.61323	.57319	.53659E-03	1.5752	45.801	.19519E-03
288.16	.61209	.61657	.57631	.54062E-03	1.5837	45.801	.19665E-03
289.73	.61463	.61993	.57945	.54464E-03	1.5924	45.801	.19812E-03
291.31	.61717	.62331	.58261	.54869E-03	1.6010	45.800	.19960E-03
292.89	.61971	.62671	.58579	.55277E-03	1.6097	45.800	.20108E-03
294.49	.62225	.63012	.58898	.55687E-03	1.6185	45.800	.20257E-03
296.09	.62479	.63356	.59219	.56099E-03	1.6273	45.799	.20407E-03
297.71	.62733	.63701	.59542	.56513E-03	1.6362	45.799	.20558E-03
299.33	.62987	.64048	.59866	.56930E-03	1.6451	45.799	.20710E-03
300.96	.63241	.64397	.60192	.57349E-03	1.6540	45.799	.20862E-03
302.60	.63495	.64748	.60520	.57770E-03	1.6630	45.798	.21015E-03
304.25	.63749	.65101	.60850	.58194E-03	1.6721	45.798	.21173E-03
305.91	.64003	.65456	.61182	.58620E-03	1.6812	45.798	.21325E-03
307.58	.64257	.65813	.61515	.59048E-03	1.6903	45.797	.21483E-03
309.25	.64511	.66172	.61850	.59478E-03	1.6995	45.797	.21637E-03
310.94	.64765	.66532	.62187	.59911E-03	1.7088	45.797	.21795E-03
312.63	.65019	.66895	.62526	.60346E-03	1.7181	45.797	.21953E-03
314.33	.65273	.67259	.62867	.60784E-03	1.7275	45.796	.22112E-03
316.05	.65527	.67626	.63209	.61224E-03	1.7369	45.796	.22272E-03
317.77	.65781	.67995	.63554	.61665E-03	1.7463	45.795	.22433E-03
319.50	.66035	.68365	.63900	.62111E-03	1.7558	45.796	.22595E-03
321.24	.66289	.68738	.64248	.62558E-03	1.7654	45.795	.22758E-03
322.99	.66543	.69113	.64599	.53008E-03	1.7750	45.795	.22921E-03
324.75	.66797	.69489	.64951	.53460E-03	1.7846	45.795	.23085E-03
326.52	.67051	.69868	.65305	.63914E-03	1.7944	45.795	.23251E-03
328.30	.67305	.70249	.65660	.54371E-03	1.8041	45.794	.23418E-03
330.09	.67559	.70632	.66016	.64831E-03	1.8139	45.794	.23585E-03
331.89	.67813	.71017	.66378	.65293E-03	1.8238	45.794	.23753E-03
333.70	.68067	.71404	.66740	.65757E-03	1.8337	45.793	.23922E-03
335.52	.68321	.71793	.67103	.56224E-03	1.8437	45.793	.24072E-03
337.35	.68575	.72184	.67469	.66694E-03	1.8538	45.793	.24263E-03
339.18	.68829	.72578	.67837	.67166E-03	1.8639	45.793	.24435E-03
341.03	.69083	.72973	.68206	.67640E-03	1.8740	45.792	.24608E-03
342.89	.69337	.73371	.68578	.68116E-03	1.8842	45.792	.24781E-03
344.76	.69591	.73771	.68952	.68597E-03	1.8945	45.792	.24956E-03
346.64	.69845	.74173	.69328	.69080E-03	1.9048	45.791	.25131E-03
348.53	.70099	.74576	.69705	.59565E-03	1.9151	45.791	.25308E-03
350.43	.70353	.74984	.70085	.70053E-03	1.9256	45.791	.25485E-03
352.34	.70607	.75393	.70467	.70543E-03	1.9360	45.791	.25664E-03
354.26	.70851	.75894	.70851	.71036E-03	1.9465	45.790	.25843E-03
356.19	.71115	.76217	.71237	.71532E-03	1.9572	45.790	.26024E-03
358.13	.71369	.76652	.71625	.72030E-03	1.9678	45.790	.26205E-03

CLOSED BOMB *** NO AIR ***   IBHVG2.228   14-OCT-86   10:38:20

TRAJECTORY VARIABLES:

/1/	TRAJ	1 BRCH
/2/	TRAJ	1 TIME
/3/	TRAJ	1 PDOT
/4/	TRAJ	1 BR-L
/5/	TRAJ	1 wTB(I)
/6/	TRAJ	1 wTBR
/7/	TRAJ	1 SRF(I)
/8/	TRAJ	1 DB-L(I)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
360.08	.71623	.77050	.72016	.72532E-03	1.9785	45.789	.26388E-03
362.04	.71877	.77470	.72405	.73035E-03	1.9893	45.789	.26571E-03
364.01	.72131	.77892	.728C3	.73542E-03	2.0001	45.789	.26756E-03
366.00	.72385	.78317	.73200	.74051E-03	2.0110	45.788	.26941E-03
367.99	.72639	.78744	.73598	.74564E-03	2.0220	45.788	.27127E-03
370.00	.72893	.79173	.74000	.75078E-03	2.0330	45.788	.27315E-03
372.01	.73147	.79605	.74403	.75596E-03	2.0440	45.787	.27503E-03
374.04	.73401	.80039	.74808	.76117E-03	2.0552	45.787	.27693E-03
376.08	.73654	.80475	.75216	.76640E-03	2.0663	45.787	.27883E-03
378.13	.73908	.80914	.75626	.77166E-03	2.0776	45.787	.28075E-03
380.19	.74162	.81355	.76038	.77696E-03	2.0889	45.786	.28267E-03
3?2.26	.74416	.81798	.76452	.78228E-03	2.1003	45.786	.28461E-03
384.34	.74670	.82244	.76869	.78762E-03	2.1117	45.786	.28656E-03
386.44	.74924	.82692	.77288	.79300E-03	2.1232	45.785	.28852E-03
368.55	.75178	.83143	.77709	.79841E-03	2.1347	45.785	.29048E-03
390.66	.75432	.83596	.78133	.80385E-03	2.1464	45.785	.29246E-03
392.79	.75686	.84052	.78558	.80931E-03	2.1580	45.784	.29445E-03
394.93	.75940	.84510	.78985	.81481E-03	2.1698	45.784	.29645E-03
397.08	.76194	.84971	.79417	.82033E-03	2.1816	45.784	.29846E-03
399.25	.76448	.85434	.79850	.82589E-C3	2.1935	45.783	.30049E-03
401.42	.76702	.85900	.80285	.83148E-03	2.2054	45.783	.30252E-03
403.61	.75956	.86368	.80722	.83709E-C3	2.2174	45.783	.30457E-03
405.81	.77210	.86839	.81162	.84274E-03	2.2295	45.732	.30662E-03
408.02	.77464	.87312	.81605	.84842E-03	2.2416	45.782	.30869E-C3
410.25	.77718	.87788	.82049	.85413E-C3	2.2538	45.782	.31077E-03
412.48	.77972	.88267	.82495	.85987E-03	2.2661	45.781	.31285E-03
414.73	.78226	.88748	.82946	.86564E-C3	2.2784	45.781	.31495E-03
416.99	.78480	.89232	.83398	.87144E-C3	2.2908	45.780	.31707E-03
419.26	.78734	.89718	.83853	.87727E-C3	2.3033	45.780	.31919E-03
421.55	.78988	.90207	.84310	.88314E-03	2.3158	45.780	.32133E-03
423.85	.79242	.90699	.84769	.88904E-03	2.3284	45.779	.32348E-03
426.16	.79496	.91193	.85231	.89497E-03	2.3411	45.779	.32564E-C3
428.48	.79750	.91690	.85695	.90093E-03	2.3538	45.779	.32781E-03
430.81	.80004	.92190	.86163	.90692E-C3	2.3665	45.773	.32999E-03
433.16	.80258	.92693	.86632	.91295E-C3	2.3795	45.778	.33218E-03
435.52	.80512	.93198	.87104	.91901E-03	2.3925	45.778	.33439E-03
437.89	.80766	.93706	.87579	.92510E-C3	2.4055	45.777	.33661E-03
440.28	.81020	.94217	.88056	.93123E-03	2.4186	45.777	.33884E-03
442.68	.81274	.94731	.88535	.93739E-C3	2.4317	45.776	.34108E-03
445.09	.81528	.95247	.89017	.94355E-03	2.4450	45.776	.34333E-03
447.52	.81782	.95766	.89504	.94981E-03	2.4583	45.776	.34560E-03
449.96	.82035	.96288	.89992	.95607E-03	2.4716	45.775	.34788E-03
452.41	.82290	.96813	.90482	.96236E-C3	2.4851	45.775	.35017E-03
454.88	.82544	.97341	.90972	.96849E-C3	2.4986	45.775	.35241E-03
457.35	.82798	.97872	.91471	.97505E-C3	2.5122	45.774	.35474E-03
454.85	.83052	.98425	.91963	.98145E-C3	2.5259	45.774	.35712E-03
462.35	.83306	.98942	.92471	.98789E-C3	2.5396	45.773	.35947E-03

61

CLOSED BOMB *** NO AIR ***   IBHVG2.226   14-OCT-86   ID: 38:20

TRAJECTORY VARIABLES:

/1/	TRAJ	1	BRCH
/2/	TRAJ	1	TIME
/3/	TRAJ	1	PDOT
/4/	TRAJ	1	6R-L
/5/	TRAJ	1	WTB(1)
/6/	TRAJ	1	WTBR
/7/	TRAJ	1	SRF(1)
/8/	TRAJ	L	08-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
464.87	.83560	.99481	.92975	.99435E-03	2.5534	45.773	.36182E-03
467.41	.83814	1.0002	.93481	.10009E-02	2.5673	45.773	.36419E-03
469.95	.84068	1.0057	.93991	.10074E-02	2.5813	45.772	.36657E-03
472.51	.84322	1.0112	.94503	.10140E-02	2.5953	45.772	.36896E-03
475.09	.84575	1.0167	.95018	.10206E-02	2.6095	45.771	.37137E-03
477.68	.84830	1.0222	.95536	.10272E-02	2.6237	45.771	.37379E-03
480.28	.85084	1.0278	.96057	.10339E-02	2.6379	45.771	.37622E-03
482.90	.85338	1.0334	.96580	.10406E-02	2.6523	45.770	.37867E-03
485.53	.85592	1.0390	.97106	.10474E-02	2.6667	45.770	.38113E-03
488.18	.85846	1.0447	.97636	.10542E-02	2.6812	45.769	.38360E-03
490.84	.86100	1.0504	.98168	.10610E-02	2.6958	45.769	.38609E-03
493.51	.86354	1.0561	.98703	.10679E-02	2.7105	45.769	.38859E-03
496.20	.86608	1.0619	.99241	.10748E-02	2.7252	45.768	.39110E-03
498.91	.86862	1.0677	.99782	.10817E-02	2.7401	45.768	.39363E-03
501.63	.87115	1.0735	1.0033	.10887E-02	2.7553	45.767	.39617E-03
504.36	.87369	1.0793	1.0087	.10957E-02	2.7700	45.767	.39873E-03
507.11	.87623	1.0852	1.0142	.11028E-02	2.7850	45.766	.40129E-03
509.87	.87877	1.0911	1.0197	.11098E-02	2.8002	45.766	.40388E-03
512.65	.88131	1.0971	1.0253	.11170E-02	2.8154	45.765	.40647E-03
515.45	.88385	1.1031	1.0309	.11241E-02	2.8307	45.765	.40909E-03
518.26	.88639	1.1091	1.0365	.11314E-02	2.8461	45.765	.41171E-03
521.08	.88893	1.1151	1.0422	.11386E-02	2.8616	45.764	.41435E-03
523.92	.89147	1.1212	1.0478	.11459E-02	2.8772	45.764	.41703E-03
526.78	.89401	1.1273	1.0535	.11532E-02	2.8928	45.763	.41967E-03
529.65	.89655	1.1335	1.0593	.11606E-02	2.9086	45.763	.42235E-03
532.53	.89909	1.1397	1.0651	.11680E-02	2.9244	45.762	.42505E-03
535.44	.90163	1.1459	1.0709	.11754E-02	2.9403	45.762	.42777E-03
538.35	.90417	1.1521	1.0767	.11829E-02	2.9563	45.762	.43049E-03
541.29	.90671	1.1584	1.0826	.11905E-02	2.9724	45.761	.43324E-03
544.24	.90925	1.1647	1.0885	.11980E-02	2.9886	45.761	.43599E-03
547.20	.91179	1.1711	1.0944	.12056E-02	3.0048	45.760	.43876E-03
550.19	.91433	1.1775	1.1004	.12133E-02	3.0212	45.759	.44155E-03
553.19	.91687	1.1839	1.1064	.12210E-02	3.0376	45.759	.44435E-03
556.20	.91941	1.1903	1.1124	.12287E-02	3.0541	45.758	.44717E-03
559.23	.92195	1.1968	1.1185	.12365E-02	3.0707	45.758	.45001E-03
562.28	.92449	1.2033	1.1246	.12443E-02	3.0874	45.758	.45285E-03
565.34	.92703	1.2099	1.1307	.12522E-02	3.1042	45.757	.45572E-03
568.43	.92957	1.2165	1.1369	.12601E-02	3.1211	45.757	.45860E-03
571.52	.93211	1.2231	1.1430	.12680E-02	3.1381	45.756	.46149E-03
574.64	.93465	1.2298	1.1493	.12760E-02	3.1552	45.756	.46440E-03
577.77	.93719	1.2365	1.1555	.12841E-02	3.1723	45.755	.46733E-03
580.92	.93973	1.2433	1.1618	.12921E-02	3.1896	45.755	.47027E-03
584.09	.94227	1.2500	1.1682	.13003E-02	3.2069	45.754	.47323E-03
587.27	.94481	1.2568	1.1745	.13084E-02	3.2244	45.754	.47621E-03
590.47	.94735	1.2637	1.1809	.13166E-02	3.2419	45.753	.47920E-03
593.69	.94989	1.2706	1.1874	.13249E-02	3.2596	45.753	.48221E-03
596.92	.95243	1.2775	1.1938	.13332E-02	3.2773	45.752	.48523E-03

CLOSED BOMB *** NO AIR ***

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH				
/ 2/	TRAJ	1	TIME				
/ 3/	TRAJ	1	PDOT				
/ 4/	TRAJ	1	BR-L				
/ 5/	TRAJ	1	WTB(1)				
/ 6/	TRAJ	1	WTBR				
/ 7/	TRAJ	1	SRF(1)				
/ 8/	TRAJ	1	DB-L(1)				

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
600.18	.95497	1.2845	1.2004	.13416E-02	3.2951	45.752	.48827E-03
603.45	.95751	1.2915	1.2069	.13499E-02	3.3130	45.751	.49133E-03
606.74	.96005	1.2985	1.2135	.13584E-02	3.3311	45.751	.49440E-03
610.05	.96259	1.3056	1.2201	.13669E-02	3.3492	45.752	.49743E-03
613.37	.96513	1.3127	1.2267	.13754E-02	3.3674	45.752	.50062E-03
616.71	.96767	1.3199	1.2334	.13843E-02	3.3857	45.749	.50372E-03
620.07	.97021	1.3271	1.2401	.13926E-02	3.4041	45.749	.50686E-03
623.45	.97275	1.3343	1.2469	.14013E-02	3.4226	45.748	.51002E-03
626.85	.97529	1.3416	1.2537	.14100E-02	3.4413	45.748	.51320E-03
630.27	.97783	1.3489	1.2605	.14187E-02	3.4600	45.747	.51639E-03
633.70	.98037	1.3563	1.2674	.14276E-02	3.4788	45.747	.51960E-03
637.16	.98291	1.3637	1.2743	.14364E-02	3.4977	45.746	.52283E-03
640.63	.98545	1.3711	1.2813	.14453E-02	3.5167	45.746	.52607E-03
644.12	.98799	1.3786	1.2882	.14543E-02	3.5359	45.745	.52934E-03
647.63	.99053	1.3861	1.2953	.14633E-02	3.5551	45.745	.53262E-03
651.16	.99307	1.3937	1.3023	.14723E-02	3.5744	45.744	.53592E-03
654.71	.99561	1.4013	1.3094	.14814E-02	3.5939	45.743	.53923E-03
658.28	.99815	1.4089	1.3166	.14906E-02	3.6134	45.743	.54257E-03
661.87	1.0007	1.4166	1.3237	.14998E-02	3.6331	45.742	.54592E-03
665.48	1.0032	1.4243	1.3310	.15090E-02	3.6528	45.742	.54929E-03
669.11	1.0058	1.4321	1.3382	.15183E-02	3.6727	45.741	.55268E-03
672.75	1.0083	1.4399	1.3455	.15277E-02	3.6927	45.741	.55609E-03
676.42	1.0108	1.4477	1.3528	.15371E-02	3.7127	45.740	.55952E-03
680.11	1.0134	1.4556	1.3602	.15466E-02	3.7329	45.740	.56296E-03
683.81	1.0159	1.4636	1.3676	.15561E-02	3.7532	45.739	.56643E-03
687.54	1.0185	1.4715	1.3751	.15656E-02	3.7736	45.738	.56991E-03
691.29	1.0210	1.4796	1.3826	.15752E-02	3.7942	45.738	.57341E-03
695.06	1.0235	1.4876	1.3901	.15849E-02	3.8148	45.737	.57693E-03
698.84	1.0261	1.4958	1.3977	.15946E-02	3.8355	45.737	.58047E-03
702.65	1.0285	1.5039	1.4053	.16044E-02	3.8564	45.736	.58403E-03
706.48	1.0312	1.5121	1.4130	.16142E-02	3.8774	45.735	.58761E-03
710.34	1.0337	1.5204	1.4207	.16241E-02	3.8984	45.735	.59121E-03
714.21	1.0362	1.5286	1.4284	.16340E-02	3.9196	45.734	.59483E-03
718.10	1.0388	1.5370	1.4362	.16440E-02	3.9410	45.734	.59845E-03
722.01	1.0413	1.5454	1.4440	.16541E-02	3.9624	45.733	.60212E-03
725.95	1.0439	1.5538	1.4519	.16641E-02	3.9839	45.732	.60583E-03
729.91	1.0464	1.5623	1.4598	.16743E-02	4.0056	45.732	.60955E-03
733.89	1.0489	1.5708	1.4678	.16845E-02	4.0274	45.731	.61321E-03
737.89	1.0515	1.5794	1.4758	.16947E-02	4.0493	45.731	.61695E-03
741.91	1.0543	1.5880	1.4835	.17050E-02	4.0713	45.730	.62071E-03
745.95	1.0566	1.5966	1.4919	.17154E-02	4.0934	45.729	.62449E-03
750.02	1.0591	1.6053	1.5000	.17258E-02	4.1157	45.729	.62829E-03
754.11	1.0616	1.6141	1.5082	.17363E-02	4.1381	45.728	.63211E-03
758.22	1.0642	1.6229	1.5164	.17468E-02	4.1606	45.727	.63595E-03
762.35	1.0667	1.6317	1.5247	.17574E-02	4.1832	45.727	.63981E-03
766.51	1.0693	1.6406	1.5330	.17681E-02	4.2059	45.726	.64371E-03
770.68	1.0718	1.6496	1.5414	.17788E-02	4.2288	45.725	.64763E-03

CLOSED BOMB *** NO AIR ***

I8HV52.228   14-OCT-86   10:38:20

TRAJECTORY VARIABLES:
/1/ TRAJ 1 BRCH
/2/ TRAJ 1 TIME
/3/ TRAJ 1 PDOT
/4/ TRAJ 1 BR-L
/5/ TRAJ 1 WTB(1)
/6/ TRAJ 1 WT6R
/7/ TRAJ 1 SRF(1)
/8/ TRAJ 1 DB-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
774.89	1.0743	1.6586	1.5498	.17896E-02	4.2518	45.725	.65153E-03
779.11	1.0769	1.6676	1.5562	.18004E-02	4.2749	45.724	.65547E-03
783.36	1.0794	1.6767	1.5667	.18113E-02	4.2981	45.723	.65944E-03
787.63	1.0820	1.6859	1.5753	.18222E-02	4.3215	45.723	.66343E-03
791.92	1.0845	1.6951	1.5838	.18332E-02	4.3450	45.722	.66744E-03
796.24	1.0870	1.7043	1.5925	.18443E-02	4.3686	45.721	.67148E-03
800.58	1.0895	1.7136	1.6012	.18554E-02	4.3924	45.721	.67553E-03
804.94	1.0921	1.7230	1.6099	.18666E-02	4.4162	45.720	.67961E-03
809.33	1.0947	1.7324	1.6187	.18779E-02	4.4402	45.720	.68371E-03
813.74	1.0972	1.7418	1.6275	.18892E-02	4.4644	45.719	.68783E-03
818.18	1.0997	1.7513	1.6364	.19005E-02	4.4887	45.719	.69198E-03
822.64	1.1023	1.7609	1.6453	.19120E-02	4.5131	45.718	.69614E-03
827.12	1.1048	1.7705	1.6542	.19235E-02	4.5376	45.717	.70033E-03
831.63	1.1074	1.7801	1.6633	.19350E-02	4.5623	45.717	.70455E-03
836.16	1.1099	1.7898	1.6723	.19466E-02	4.5871	45.716	.70878E-03
840.72	1.1124	1.7996	1.6814	.19583E-02	4.6120	45.715	.71304E-03
845.31	1.1150	1.8094	1.6906	.19701E-02	4.6371	45.714	.71732E-03
849.91	1.1175	1.8193	1.6998	.19819E-02	4.6623	45.714	.72163E-03
854.55	1.1201	1.8292	1.7091	.19937E-02	4.6875	45.713	.72595E-03
859.21	1.1226	1.8392	1.7184	.20057E-02	4.7131	45.712	.73031E-03
863.89	1.1251	1.8492	1.7278	.20177E-02	4.7387	45.712	.73469E-03
868.60	1.1277	1.8593	1.7372	.20298E-02	4.7645	45.711	.73909E-03
873.33	1.1302	1.8694	1.7467	.20419E-02	4.7904	45.710	.74351E-03
878.09	1.1328	1.8796	1.7562	.20541E-02	4.8164	45.709	.74796E-03
882.88	1.1353	1.8899	1.7658	.20664E-02	4.8426	45.708	.75243E-03
887.69	1.1378	1.9002	1.7754	.20787E-02	4.8689	45.707	.75693E-03
892.53	1.1404	1.9106	1.7851	.20911E-02	4.8953	45.706	.76145E-03
897.40	1.1429	1.9210	1.7948	.21036E-02	4.9220	45.706	.76600E-03
902.29	1.1455	1.9315	1.8046	.21161E-02	4.9487	45.705	.77057E-03
907.21	1.1480	1.9420	1.8144	.21287E-02	4.9756	45.704	.77516E-03
912.16	1.1505	1.9526	1.8243	.21414E-02	5.0025	45.703	.77973E-03
917.13	1.1531	1.9633	1.8343	.21541E-02	5.0298	45.703	.78443E-03
922.13	1.1556	1.9740	1.8443	.21669E-02	5.0572	45.702	.78910E-03
927.16	1.1582	1.9847	1.8543	.21798E-02	5.0846	45.701	.79380E-03
932.21	1.1607	1.9956	1.8644	.21927E-02	5.1123	45.703	.79852E-03
937.29	1.1632	2.0064	1.8746	.22058E-02	5.1401	45.699	.80327E-03
942.40	1.1658	2.0174	1.8848	.22189E-02	5.1683	45.699	.80804E-03
947.54	1.1683	2.0284	1.8951	.22320E-02	5.1961	45.698	.81284E-03
952.71	1.1709	2.0395	1.9054	.22452E-02	5.2243	45.697	.81767E-03
957.90	1.1734	2.0506	1.9158	.22586E-02	5.2527	45.696	.82252E-03
963.12	1.1759	2.0618	1.9262	.22719E-02	5.2812	45.695	.82740E-03
968.37	1.1785	2.0730	1.9367	.22854E-02	5.3099	45.695	.83231E-03
973.65	1.1810	2.0843	1.9473	.22989E-02	5.3388	45.694	.83724E-03
978.96	1.1836	2.0957	1.9579	.23125E-02	5.3676	45.693	.84220E-03
984.30	1.1861	2.1071	1.9685	.23262E-02	5.3970	45.692	.84718E-03
989.66	1.1886	2.1186	1.9793	.23399E-02	5.4263	45.691	.85220E-03
995.05	1.1912	2.1302	1.9901	.23537E-02	5.4558	45.691	.85724E-03

CLOSED BOMB *** NO AIR ***   IBHVGZ.228   14-OCT-86   10:38:20

TRAJECTORY VARIABLES:
/ 1/	TRAJ 1	ERCH
/ 2/	TRAJ 1	TIME
/ 3/	TRAJ 1	PDOT
/ 4/	TPAJ 1	BR-L
/ 5/	TRAJ 1	WTB(1)
/ 6/	TRAJ 1	WTBR
/ 7/	TRAJ 1	SRF(1)
/ 8/	TRAJ 1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
1000.5	1.1937	2.1418	2.0010	.23676E-02	5.4854	45.690	.86231E-03
1005.9	1.1963	2.1535	2.0119	.23816E-02	5.5152	45.689	.86743E-03
1011.4	1.1988	2.1652	2.0228	.23956E-02	5.5452	45.688	.87253E-03
1016.9	1.2013	2.1771	2.0339	.24098E-02	5.5753	45.687	.87763E-03
1022.5	1.2039	2.1889	2.0450	.24240E-02	5.6056	45.685	.88286E-03
1028.1	1.2064	2.2009	2.0561	.24382E-02	5.6361	45.685	.88807E-03
1033.7	1.2089	2.2129	2.0673	.24526E-02	5.6667	45.684	.89330E-03
1039.3	1.2115	2.2250	2.0786	.24670E-02	5.6975	45.684	.89857E-03
1045.0	1.2140	2.2371	2.0899	.24815E-C2	5.7284	45.683	.90386E-03
1050.7	1.2166	2.2493	2.1013	.24961E-02	5.7595	45.683	.90918E-03
1056.4	1.2191	2.2615	2.1128	.25108E-02	5.7908	45.682	.91453E-03
1062.2	1.2216	2.2739	2.1243	.25255E-02	5.8223	45.681	.91992E-03
1067.9	1.2242	2.2863	2.1359	.25404E-02	5.8539	45.680	.92533E-03
1073.8	1.2267	2.2988	2.1475	.25553E-02	5.8857	45.679	.93076E-03
1079.6	1.2293	2.3113	2.1592	.25703E-02	5.9177	45.678	.93623E-03
1085.5	1.2318	2.3240	2.1710	.25853E-02	5.9498	45.677	.94173E-03
1091.4	1.2343	2.3366	2.1828	.26005E-02	5.9822	45.676	.94725E-03
1097.4	1.2369	2.3494	2.1947	.26157E-02	6.0146	45.675	.95282E-03
1103.4	1.2394	2.3622	2.2067	.26310E-02	6.0473	45.675	.95841E-03
1109.4	1.2420	2.3751	2.2187	.26464E-02	6.0802	45.674	.96403E-03
1115.4	1.2445	2.3881	2.2308	.26619E-02	6.1132	45.673	.96968E-03
1121.5	1.2470	2.4011	2.2430	.26775E-02	6.1464	45.672	.97535E-03
1127.6	1.2496	2.4142	2.2552	.26931E-02	6.1798	45.671	.98107E-03
1133.8	1.2521	2.4274	2.2675	.27089E-02	6.2133	45.670	.98682E-03
1139.9	1.2547	2.4406	2.2799	.27247E-02	6.2471	45.653	.99259E-03
1145.2	1.2572	2.4539	2.2923	.27406E-02	6.2810	45.668	.99842E-03
1152.4	1.2597	2.4673	2.3048	.27566E-02	6.3151	45.657	.10042E-02
1158.7	1.2623	2.4808	2.3174	.27727E-02	6.3494	45.666	.10101E-02
1165.0	1.2648	2.4943	2.3300	.27889E-02	6.3839	45.655	.10160E-02
1171.4	1.2674	2.5079	2.3427	.28051E-02	6.4186	45.664	.10219E-02
1177.8	1.2699	2.5216	2.3555	.28215E-02	6.4534	45.663	.10279E-02
1184.2	1.2724	2.5354	2.3684	.28379E-02	6.4885	45.662	.10339E-02
1190.6	1.2750	2.5492	2.3813	.28544E-02	6.5237	45.661	.10399E-02
1197.1	1.2775	2.5631	2.3943	.28710E-02	6.5591	45.660	.10460E-02
1203.7	1.2801	2.5771	2.4073	.28877E-02	6.5948	45.659	.10521E-02
1210.2	1.2826	2.5912	2.4204	.29045E-02	6.6306	45.658	.10582E-02
1216.8	1.2851	2.6053	2.4336	.29214E-02	6.6666	45.657	.10644E-02
1223.5	1.2877	2.6195	2.4469	.29384E-02	6.7028	45.555	.10705E-02
1230.1	1.2902	2.6338	2.4602	.29555E-02	6.7392	45.655	.10768E-02
1236.8	1.2928	2.6482	2.4737	.29725E-02	6.7753	45.654	.10831E-02
1243.6	1.2953	2.6627	2.4871	.29899E-02	6.8126	45.653	.10894E-02
1250.4	1.2978	2.6772	2.5007	.30072E-02	6.8495	45.552	.10957E-02
1257.2	1.3004	2.6918	2.5143	.30247E-02	6.8867	45.651	.11021E-02
1264.0	1.3029	2.7065	2.5281	.30422E-C2	6.9241	45.650	.11085E-02
1270.9	1.3055	2.7213	2.5418	.30599E-02	6.9617	45.649	.11149E-02
1277.9	1.3080	2.7361	2.5557	.30776E-02	6.9995	45.648	.11214E-02
1284.8	1.3105	2.7510	2.5696	.30954E-02	7.0375	45.645	.11279E-02

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	FDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(1)
/ 6/	TPAJ	1	WTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
1291.8	1.3131	2.7661	2.5837	.31133E-02	7.0757	45.644	.11345E-02
1298.9	1.3156	2.7812	2.5977	.31314E-02	7.1141	45.643	.11410E-02
1306.0	1.3182	2.7963	2.6119	.31495E-02	7.1528	45.642	.11477E-02
1313.1	1.3207	2.8116	2.6261	.31677E-02	7.1916	45.641	.11543E-02
1320.2	1.3232	2.8269	2.6405	.31880E-02	7.2306	45.640	.11610E-02
1327.4	1.3258	2.8424	2.6549	.32044E-02	7.2699	45.639	.11677E-02
1334.7	1.3283	2.8579	2.6693	.32229E-02	7.3094	45.638	.11745E-02
1342.0	1.3309	2.8735	2.6839	.32415E-02	7.3490	45.636	.11813E-02
1349.3	1.3334	2.8892	2.6985	.32603E-02	7.3889	45.635	.11881E-02
1356.6	1.3359	2.9049	2.7133	.32791E-02	7.4290	45.634	.11950E-02
1364.0	1.3385	2.9208	2.7281	.32980E-02	7.4694	45.633	.12019E-02
1371.5	1.3410	2.9367	2.7429	.33170E-02	7.5099	45.632	.12088E-02
1378.9	1.3436	2.9528	2.7577	.33361E-02	7.5507	45.631	.12158E-02
1386.5	1.3461	2.9689	2.7729	.33554E-02	7.5916	45.632	.12229E-02
1394.0	1.3486	2.9851	2.7883	.33747E-02	7.6328	45.628	.12299E-02
1401.6	1.3512	3.0014	2.8033	.33941E-02	7.6743	45.627	.12370E-02
1409.3	1.3537	3.0178	2.8185	.34137E-02	7.7159	45.625	.12442E-02
1417.0	1.3563	3.0343	2.8339	.34333E-02	7.7578	45.625	.12513E-02
1424.7	1.3588	3.0508	2.8494	.34531E-02	7.7999	45.624	.12586E-02
1432.5	1.3613	3.0675	2.8649	.34730E-02	7.8422	45.622	.12658E-02
1440.3	1.3639	3.0842	2.8805	.34929E-02	7.8848	45.621	.12731E-02
1448.1	1.3664	3.1011	2.8962	.35130E-02	7.9276	45.620	.12804E-02
1456.0	1.3690	3.1180	2.9120	.35332E-02	7.9706	45.619	.12878E-02
1464.0	1.3715	3.1353	2.9279	.35535E-02	8.0138	45.617	.12952E-02
1471.9	1.3740	3.1521	2.9439	.35739E-02	8.0573	45.616	.13027E-02
1480.0	1.3766	3.1693	2.9599	.35944E-02	8.1010	45.615	.13102E-02
1488.0	1.3791	3.1866	2.9761	.36151E-02	8.1450	45.614	.13177E-02
1496.2	1.3817	3.2040	2.9923	.36358E-02	8.1692	45.612	.13253E-02
1504.3	1.3842	3.2215	3.0086	.36567E-02	8.2336	45.611	.13329E-02
1512.5	1.3867	3.2391	3.0250	.36776E-02	8.2783	45.610	.13406E-02
1520.8	1.3893	3.2568	3.0415	.36987E-02	8.3232	45.609	.13483E-02
1529.1	1.3918	3.2746	3.0581	.37199E-02	8.3684	45.607	.13560E-02
1537.4	1.3944	3.2924	3.0748	.37412E-02	8.4138	45.606	.13638E-02
1545.8	1.3969	3.3104	3.0916	.37626E-02	8.4594	45.605	.13717E-02
1554.2	1.3994	3.3285	3.1084	.37842E-02	8.5053	45.603	.13795E-02
1562.7	1.4020	3.3467	3.1254	.38058E-02	8.5515	45.602	.13874E-02
1571.2	1.4045	3.3649	3.1424	.38275E-02	8.5979	45.601	.13954E-02
1579.8	1.4071	3.3833	3.1596	.38495E-02	8.6445	45.599	.14034E-02
1588.4	1.4096	3.4018	3.1758	.38715E-02	8.6914	45.598	.14115E-02
1597.1	1.4121	3.4204	3.1941	.38937E-02	8.7385	45.597	.14195E-02
1605.8	1.4147	3.4390	3.2115	.39159E-02	8.7859	45.595	.14277E-02
1614.5	1.4172	3.4578	3.2291	.39383E-02	8.8336	45.594	.14359E-02
1623.3	1.4198	3.4767	3.2467	.39608E-02	8.8815	45.593	.14441E-02
1632.2	1.4223	3.4957	3.2644	.39834E-02	8.9297	45.591	.14524E-02
1641.1	1.4248	3.5148	3.2822	.40062E-02	8.9781	45.590	.14607E-02
1650.1	1.4274	3.5340	3.3001	.40290E-02	9.0268	45.588	.14690E-02
1659.1	1.4299	3.5533	3.3161	.40523E-02	9.0756	45.587	.14774E-02

CLOSED BOMB *** NO AIR ***

IBHVG2.228   14-OCT-86   IO: 38:20

TRAJECTORY VARIABLES:

/ 1/	TRAJ	BRCH	
/ 2/	TRAJ	TIME	
/ 3/	TRAJ	POOT	
/ 4/	TRAJ	BR-L	
/ 5/	TRAJ	MT6(1)	
/ 6/	TRAJ	MT6R	
/ 7/	TRAJ	SRF(1)	
/ 8/	TRAJ	DB-L(1)	

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
1668.1	1.4325	3.5727	3.3362	.40751E-02	9.1250	45.586	.14859E-02
1677.2	1.4350	3.5922	3.3544	.40984E-02	9.1745	45.584	.14944E-02
1686.3	1.4375	3.6118	3.3727	.41217E-02	9.2242	45.583	.15029E-02
1695.5	1.4401	3.6315	3.3911	.41452E-02	9.2742	45.581	.15115E-02
1704.8	1.4426	3.6513	3.4096	.41688E-02	9.3245	45.580	.15201E-02
1714.1	1.4452	3.6713	3.4282	.41926E-02	9.3751	45.579	.15288E-02
1723.4	1.4477	3.6913	3.4469	.42165E-02	9.4259	45.577	.15376E-02
1732.8	1.4502	3.7115	3.4657	.42405E-02	9.4771	45.575	.15463E-02
1742.3	1.4528	3.7318	3.4846	.42646E-02	9.5284	45.574	.15552E-02
1751.8	1.4553	3.7521	3.5036	.42889E-02	9.5801	45.573	.15640E-02
1761.4	1.4579	3.7726	3.5227	.43133E-02	9.6320	45.571	.15730E-02
1771.0	1.4604	3.7932	3.5419	.43378E-02	9.6843	45.570	.15819E-02
1780.6	1.4629	3.8140	3.5612	.43625E-02	9.7368	45.568	.15909E-02
1790.3	1.4655	3.8348	3.5807	.43871E-02	9.7896	45.567	.16000E-02
1800.1	1.4680	3.8557	3.6002	.44122E-02	9.8426	45.565	.16091E-02
1809.9	1.4705	3.8768	3.6198	.44372E-02	9.8960	45.564	.16183E-02
1819.8	1.4731	3.8980	3.6396	.44625E-02	9.9496	45.562	.16275E-02
1829.7	1.4756	3.9193	3.6594	.44878E-02	10.004	45.561	.16368E-02
1839.7	1.4782	3.9407	3.6794	.45133E-02	10.058	45.559	.16461E-02
1849.7	1.4807	3.9622	3.6995	.45389E-02	10.112	45.557	.16555E-02
1859.8	1.4832	3.9838	3.7197	.45646E-02	10.167	45.555	.16649E-02
1870.0	1.4858	4.0056	3.7400	.45905E-02	10.222	45.554	.16744E-02
1880.2	1.4883	4.0275	3.7604	.46166E-02	10.278	45.553	.16839E-02
1890.4	1.4909	4.0495	3.7809	.46427E-02	10.333	45.551	.16935E-02
1900.7	1.4934	4.0716	3.8015	.46699E-02	10.389	45.549	.17031E-02
1911.1	1.4959	4.0938	3.8222	.46955E-02	10.446	45.548	.17128E-02
1921.5	1.4985	4.1162	3.8431	.47221E-02	10.502	45.546	.17225E-02
1932.0	1.5010	4.1387	3.8641	.47489E-02	10.559	45.545	.17323E-02
1942.6	1.5036	4.1613	3.8851	.47757E-02	10.616	45.543	.17422E-02
1953.2	1.5061	4.1840	3.9063	.48028E-02	10.674	45.541	.17520E-02
1963.8	1.5086	4.2069	3.9276	.48300E-02	10.732	45.540	.17620E-02
1974.5	1.5112	4.2299	3.9491	.48573E-02	10.790	45.538	.17720E-02
1985.3	1.5137	4.2530	3.9706	.48848E-02	10.848	45.535	.17821E-02
1996.1	1.5163	4.2762	3.9923	.49124E-02	10.907	45.533	.17922E-02
2007.0	1.5188	4.2996	4.0141	.49402E-02	10.966	45.531	.18023E-02
2018.0	1.5213	4.3230	4.0360	.49681E-02	11.026	45.530	.18126E-02
2029.0	1.5239	4.3467	4.0581	.49962E-02	11.085	45.528	.18228E-02
2040.1	1.5264	4.3704	4.0801	.50244E-02	11.146	45.526	.18332E-02
2051.2	1.5290	4.3943	4.1024	.50526E-02	11.206	45.524	.18436E-02
2062.4	1.5315	4.4183	4.1248	.50813E-02	11.267	45.523	.18540E-02
2073.6	1.5340	4.4424	4.1473	.51100E-02	11.328	45.521	.18645E-02
2084.9	1.5365	4.4667	4.1699	.51389E-02	11.389	45.519	.18751E-02
2096.3	1.5391	4.4911	4.1926	.51679E-02	11.451	45.517	.18857E-02
2107.8	1.5417	4.5157	4.2155	.51970E-02	11.513	45.515	.18964E-02
2119.3	1.5442	4.5403	4.2385	.52264E-02	11.575	45.514	.19071E-02
2130.8	1.5467	4.5651	4.2616	.52558E-02	11.636	45.512	.19173E-02
2142.4	1.5493	4.5901	4.2849	.52855E-02	11.761		.19285E-02

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	MTB(1)
/ 6/	TRAJ	1	MTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
2154.1	1.5518	4.6152	4.3083	.53153E-02	11.764	45.513	.19397E-02
2165.9	1.5544	4.6404	4.3318	.53452E-02	11.828	45.508	.19506E-02
2177.7	1.5569	4.6657	4.3554	.53754E-02	11.892	45.505	.19617E-02
2189.6	1.5594	4.6912	4.3792	.54055E-02	11.956	45.505	.19728E-02
2201.5	1.5620	4.7169	4.4031	.54361E-02	12.021	45.503	.19839E-02
2213.6	1.5645	4.7426	4.4271	.54667E-02	12.086	45.501	.19951E-02
2225.6	1.5671	4.7686	4.4513	.54975E-02	12.152	45.499	.20064E-02
2237.8	1.5696	4.7946	4.4755	.55284E-02	12.217	45.497	.20177E-02
2250.0	1.5721	4.8208	4.5000	.55595E-02	12.284	45.495	.20291E-02
2262.3	1.5747	4.8472	4.5245	.55908E-02	12.350	45.493	.20406E-02
2274.6	1.5772	4.8737	4.5492	.56223E-02	12.417	45.491	.20521E-02
2287.0	1.5798	4.9003	4.5740	.56539E-02	12.484	45.489	.20637E-02
2299.5	1.5823	4.9271	4.5990	.56857E-02	12.552	45.487	.20754E-02
2312.0	1.5848	4.9540	4.6241	.57177E-02	12.620	45.485	.20871E-02
2324.7	1.5874	4.9811	4.6493	.57498E-02	12.688	45.484	.20988E-02
2337.3	1.5899	5.0083	4.6747	.57821E-02	12.757	45.482	.21107E-02
2350.1	1.5925	5.0357	4.7002	.58146E-02	12.826	45.480	.21226E-02
2362.9	1.5950	5.0632	4.7259	.58473E-02	12.895	45.478	.21346E-02
2375.8	1.5975	5.0909	4.7516	.58801E-02	12.965	45.476	.21465E-02
2388.8	1.6001	5.1187	4.7776	.59131E-02	13.035	45.474	.21587E-02
2401.8	1.6025	5.1467	4.8036	.59463E-02	13.106	45.472	.21709E-02
2414.9	1.6052	5.1748	4.8299	.59797E-02	13.177	45.469	.21831E-02
2428.1	1.6077	5.2031	4.8562	.60133E-02	13.248	45.467	.21954E-02
2441.4	1.6102	5.2315	4.8827	.60470E-02	13.320	45.465	.22078E-02
2454.7	1.6128	5.2601	4.9094	.60809E-02	13.392	45.463	.22202E-02
2468.1	1.6153	5.2889	4.9362	.61150E-02	13.464	45.461	.22327E-02
2481.5	1.6179	5.3178	4.9631	.61493E-02	13.537	45.459	.22453E-02
2495.1	1.6204	5.3469	4.9902	.61838E-02	13.610	45.457	.22579E-02
2508.7	1.6229	5.3761	5.0174	.62184E-02	13.684	45.455	.22706E-02
2522.4	1.6255	5.4055	5.0448	.62533E-02	13.758	45.453	.22834E-02
2536.2	1.6280	5.4350	5.0723	.62883E-02	13.832	45.451	.22963E-02
2550.0	1.6306	5.4648	5.1000	.63236E-02	13.907	45.448	.23092E-02
2563.9	1.6331	5.4945	5.1279	.63590E-02	13.983	45.446	.23222E-02
2577.9	1.6356	5.5247	5.1558	.63946E-02	14.058	45.444	.23352E-02
2592.0	1.6382	5.5549	5.1843	.64304E-02	14.134	45.442	.23483E-02
2606.1	1.6407	5.5853	5.2123	.64664E-02	14.211	45.440	.23615E-02
2620.4	1.6433	5.6158	5.2407	.65026E-02	14.288	45.438	.23748E-02
2634.7	1.6458	5.6465	5.2693	.65390E-02	14.365	45.435	.23882E-02
2649.0	1.6483	5.6774	5.2981	.65755E-02	14.442	45.433	.24016E-02
2663.5	1.6509	5.7084	5.3270	.66123E-02	14.521	45.431	.24151E-02
2678.0	1.6534	5.7396	5.3561	.66493E-02	14.599	45.429	.24286E-02
2692.7	1.6560	5.7710	5.3853	.66865E-02	14.678	45.425	.24423E-02
2707.4	1.6585	5.8026	5.4147	.67239E-02	14.757	45.424	.24560E-02
2722.1	1.6610	5.8343	5.4443	.67614E-02	14.837	45.422	.24698E-02
2737.0	1.6636	5.8662	5.4742	.67992E-02	14.917	45.419	.24837E-02
2751.0	1.6661	5.8983	5.5039	.68372E-02	14.998	45.417	.24976E-02
2767.0	1.6687	5.9305	5.5339	.68754E-02	15.074	45.415	.25115E-02

TRAJECTORY VARIABLES:
/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(1)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
2782.1	1.6712	5.9630	5.5641	.59138E-02	15.161	45.412	.25257E-02
2797.2	1.6737	5.9956	5.5945	.59524E-02	15.243	45.410	.25399E-02
2812.5	1.6763	6.0284	5.6250	.69912E-02	15.325	45.408	.25541E-02
2827.9	1.6788	6.0613	5.6557	.70303E-02	15.408	45.405	.25685E-02
2843.3	1.6814	6.0945	5.6866	.70695E-02	15.491	45.403	.25829E-02
2858.8	1.6839	6.1278	5.7176	.71090E-02	15.575	45.400	.25973E-02
2874.4	1.6864	6.1613	5.7489	.71486E-02	15.659	45.398	.26119E-02
2890.1	1.6890	6.1950	5.7802	.71885E-02	15.744	45.396	.26265E-02
2905.9	1.6915	6.2289	5.8118	.72286E-02	15.829	45.393	.26413E-02
2921.8	1.6941	6.2630	5.8435	.72689E-02	15.914	45.391	.26561E-02
2937.7	1.6966	6.2972	5.8754	.73094E-02	16.000	45.388	.26709E-02
2953.7	1.6991	6.3317	5.9075	.73502E-02	16.087	45.385	.26857E-02
2969.9	1.7017	6.3663	5.9397	.73911E-02	16.174	45.383	.27013E-02
2986.1	1.7042	6.4011	5.9722	.74323E-02	16.261	45.381	.27161E-02
3002.4	1.7068	6.4362	6.0048	.74737E-02	16.349	45.378	.27313E-02
3018.8	1.7093	6.4714	6.0375	.75154E-02	16.437	45.375	.27466E-02
3035.3	1.7118	6.5068	6.0705	.75572E-02	16.526	45.373	.27620E-02
3051.8	1.7144	6.5424	6.1037	.75993E-02	16.616	45.370	.27774E-02
3068.5	1.7169	6.5781	6.1370	.76416E-02	16.705	45.368	.27930E-02
3085.2	1.7195	6.6141	6.1705	.76842E-02	16.795	45.365	.28086E-02
3102.1	1.7220	6.6503	6.2042	.77270E-02	16.886	45.363	.28243E-02
3119.0	1.7245	6.6867	6.2381	.77700E-02	16.977	45.360	.28401E-02
3136.1	1.7271	6.7233	6.2721	.78132E-02	17.069	45.357	.28560E-02
3153.2	1.7296	6.7601	6.3064	.78567E-02	17.161	45.355	.28722E-02
3170.4	1.7322	6.7971	6.3408	.79004E-02	17.254	45.352	.28880E-02
3187.7	1.7347	6.8342	6.3754	.79443E-02	17.347	45.349	.29042E-02
3205.1	1.7372	6.8716	6.4102	.79885E-02	17.441	45.347	.29204E-02
3222.6	1.7398	6.9092	6.4452	.80329E-02	17.535	45.344	.29367E-02
3240.2	1.7423	6.9470	6.4604	.80776E-02	17.630	45.341	.29532E-02
3257.9	1.7448	6.9851	6.5158	.81225E-02	17.725	45.338	.29697E-02
3275.7	1.7474	7.0233	6.5514	.81676E-02	17.821	45.336	.29863E-02
3293.6	1.7499	7.0617	6.5872	.82130E-02	17.917	45.333	.30023E-02
3311.6	1.7525	7.1004	6.6231	.82586E-02	18.014	45.330	.30197E-02
3329.6	1.7550	7.1392	6.6593	.83045E-02	18.111	45.324	.30365E-02
3347.8	1.7575	7.1783	6.6956	.83506E-02	18.209	45.322	.30535E-02
3366.1	1.7601	7.2176	6.7322	.53970E-02	18.307	45.319	.30706E-02
3384.5	1.7626	7.2571	6.7690	.84436E-02	18.406	45.315	.30877E-02
3403.0	1.7652	7.2968	6.8059	.84905E-02	18.505	45.313	.31052E-02
3421.6	1.7677	7.3367	6.8431	.85376E-02	18.605	45.310	.31223E-02
3440.2	1.7702	7.3769	6.8805	.85850E-02	18.705	45.307	.31397E-02
3459.0	1.7728	7.4173	6.9180	.86326E-02	18.806	45.304	.31573E-02
3477.9	1.7753	7.4579	6.9558	.86805E-02	18.908	45.301	.31749E-02
3496.9	1.7779	7.4987	6.9938	.87287E-02	19.010	45.298	.31926E-02
3516.0	1.7804	7.5397	7.0320	.57771E-02	19.112	45.295	.32104E-02
3535.2	1.7829	7.5810	7.0704	.88257E-02	19.215	45.292	.32283E-02
3554.5	1.7855	7.6225	7.1095	.88747E-02	19.319	45.292	.32463E-02
3573.9	1.7880	7.6642	7.1479	.89239E-02	19.423	45.289	.32644E-02

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	POOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	MTB(1)
/ 6/	TRAJ	1	MTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
3593.4	1.7905	7.7062	7.1869	.89733E-02	19.528	45.286	.32825E-02
3613.1	1.7931	7.7484	7.2261	.90231E-02	19.633	45.283	.33009E-02
3632.8	1.7955	7.7908	7.2656	.90731E-02	19.739	45.280	.33193E-02
3652.6	1.7982	7.8334	7.3053	.91233E-02	19.846	45.277	.33378E-02
3672.6	1.8007	7.8763	7.3452	.91739E-02	19.953	45.274	.33564E-02
3692.7	1.8033	7.9194	7.3853	.92247E-02	20.060	45.271	.33751E-02
3712.8	1.8058	7.9628	7.4256	.92758E-02	20.169	45.268	.33943E-02
3733.1	1.8083	8.0064	7.4662	.93271E-02	20.277	45.265	.34129E-02
3753.5	1.8109	8.0502	7.5070	.93788E-02	20.387	45.261	.34319E-02
3774.0	1.8134	8.0943	7.5480	.94307E-02	20.496	45.258	.34510E-02
3794.6	1.8160	8.1386	7.5892	.94829E-02	20.607	45.255	.34702E-02
3815.3	1.8185	8.1832	7.6307	.95354E-02	20.718	45.252	.34895E-02
3836.2	1.8210	8.2280	7.6724	.95881E-02	20.830	45.249	.35090E-02
3857.1	1.8236	8.2731	7.7143	.96412E-02	20.942	45.245	.35285E-02
3878.2	1.8261	8.3184	7.7564	.96945E-02	21.055	45.242	.35482E-02
3899.4	1.8287	8.3639	7.7988	.97481E-02	21.168	45.239	.35679E-02
3920.7	1.8312	8.4097	7.8414	.98020E-02	21.282	45.235	.35878E-02
3942.1	1.8337	8.4558	7.8842	.98562E-02	21.397	45.232	.36078E-02
3963.6	1.8363	8.5021	7.9273	.99107E-02	21.512	45.229	.36278E-02
3985.3	1.8388	8.5487	7.9706	.99655E-02	21.628	45.225	.36480E-02
4007.1	1.8414	8.5955	8.0141	.10021E-01	21.745	45.222	.36683E-02
4029.0	1.8439	8.6426	8.0579	.10076E-01	21.862	45.219	.36887E-02
4051.0	1.8464	8.6899	8.1019	.10132E-01	21.980	45.215	.37093E-02
4073.1	1.8490	8.7375	8.1462	.10188E-01	22.098	45.212	.37299E-02
4095.3	1.8515	8.7854	8.1907	.10244E-01	22.217	45.208	.37505E-02
4117.7	1.8541	8.8335	8.2354	.10300E-01	22.337	45.205	.37715E-02
4140.2	1.8566	8.8819	8.2804	.10357E-01	22.457	45.201	.37925E-02
4162.8	1.8591	8.9305	8.3257	.10415E-01	22.578	45.198	.38136E-02
4185.6	1.8617	8.9794	8.3712	.10472E-01	22.700	45.194	.38348E-02
4208.5	1.8642	9.0286	8.4169	.10530E-01	22.822	45.191	.38561E-02
4231.4	1.8668	9.0781	8.4629	.10588E-01	22.945	45.187	.38775E-02
4254.6	1.8693	9.1278	8.5091	.10646E-01	23.068	45.183	.38991E-02
4277.8	1.8719	9.1778	8.5555	.10705E-01	23.193	45.180	.39207E-02
4301.2	1.8744	9.2281	8.6024	.10764E-01	23.317	45.176	.39425E-02
4324.7	1.8769	9.2787	8.6494	.10824E-01	23.443	45.173	.39644E-02
4348.3	1.8795	9.3295	8.6966	.10883E-01	23.569	45.169	.39865E-02
4372.1	1.8820	9.3806	8.7442	.10943E-01	23.696	45.165	.40085E-02
4396.0	1.8845	9.4320	8.7919	.11004E-01	23.823	45.162	.40309E-02
4420.0	1.8871	9.4837	8.8400	.11064E-01	23.952	45.158	.40533E-02
4444.1	1.8896	9.5357	8.8883	.11125E-01	24.081	45.154	.40758E-02
4468.4	1.8922	9.5880	8.9369	.11187E-01	24.210	45.150	.40984E-02
4492.8	1.8947	9.6405	8.9857	.11248E-01	24.340	45.146	.41212E-02
4517.4	1.8972	9.6933	9.0348	.11310E-01	24.471	45.143	.41441E-02
4542.1	1.8998	9.7465	9.0842	.11373E-01	24.603	45.139	.41671E-02
4566.9	1.9023	9.7999	9.1338	.11435E-01	24.735	45.135	.41902E-02
4591.9	1.9049	9.8536	9.1837	.11498E-01	24.868	45.131	.42133E-02
4617.0	1.9074	9.9076	9.2338	.11562E-01	25.002	45.127	.42369E-02

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(1)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-LII

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
4642.2	1.9099	9.9619	9.2844	.11625E-01	25.136	45.123	.42604E-02
4667.6	1.9125	10.017	9.3351	.11689E-01	25.272	45.119	.42840E-02
4693.1	1.9150	10.071	9.3861	.11754E-01	25.408	45.115	.43078E-02
4718.7	1.9175	10.127	9.4374	.11818E-01	25.544	45.111	.43317E-02
4744.5	1.9201	10.182	9.4890	.11883E-01	25.681	45.107	.43557E-02
4770.4	1.9225	10.238	9.5409	.11949E-01	25.820	45.103	.43799E-02
4796.5	1.9252	10.294	9.5930	.12015E-01	25.958	45.099	.44042E-02
4822.7	1.9277	10.351	9.6455	.12081E-01	26.098	45.095	.44285E-02
4849.1	1.9303	10.407	9.6982	.12147E-01	26.238	45.091	.44532E-02
4875.6	1.9328	10.464	9.7512	.12214E-01	26.379	45.087	.44779E-02
4902.2	1.9353	10.522	9.8045	.12281E-01	26.521	45.083	.45027E-02
4929.0	1.9379	10.579	9.8581	.12349E-01	26.663	45.079	.45277E-02
4956.0	1.9404	10.637	9.9120	.12417E-01	26.807	45.075	.45528E-02
4983.1	1.9430	10.69	9.9662	.12485E-01	26.951	45.071	.45783E-02
5010.3	1.9455	10.754	10.021	.12553E-01	27.095	45.065	.46034E-02
5037.7	1.9480	10.813	10.075	.12622E-01	27.241	45.062	.46289E-02
5065.2	1.9506	10.873	10.130	.12692E-01	27.387	45.058	.46546E-02
5092.9	1.9531	10.932	10.185	.12762E-01	27.534	45.053	.46804E-02
5120.8	1.9557	10.992	10.242	.12832E-01	27.682	45.049	.47063E-02
5148.8	1.9582	11.053	10.293	.12902E-01	27.831	45.045	.47324E-02
5176.9	1.9607	11.113	10.354	.12973E-01	27.980	45.040	.47566E-02
5205.2	1.9633	11.174	10.410	.13044E-01	28.131	45.035	.47850E-02
5233.7	1.9658	11.235	10.467	.13116E-01	28.282	45.031	.48115E-02
5262.3	1.9684	11.297	10.525	.13188E-01	28.432	45.027	.48382E-02
5291.1	1.9709	11.359	10.582	.13260E-01	28.586	45.023	.48650E-02
5320.0	1.9734	11.421	10.640	.13333E-01	28.739	45.019	.48919E-02
5349.1	1.9760	11.484	10.698	.13406E-01	28.894	45.013	.49190E-02
5378.3	1.9785	11.547	10.757	.13480E-01	29.049	45.009	.49463E-02
5407.7	1.9811	11.610	10.815	.13554E-01	29.205	45.004	.49737E-02
5437.3	1.9836	11.674	10.875	.13628E-01	29.361	45.000	.50012E-02
5467.0	1.9861	11.738	10.934	.13703E-01	29.519	44.995	.50289E-02
5496.9	1.9887	11.802	10.994	.13778E-01	29.677	44.991	.50568E-02
5527.0	1.9912	11.867	11.054	.13854E-01	29.836	44.986	.50848E-02
5557.2	1.9938	11.932	11.114	.13930E-01	29.996	44.981	.51129E-02
5587.6	1.9963	11.998	11.175	.14006E-01	30.157	44.976	.51412E-02
5618.2	1.9988	12.064	11.235	.14083E-01	30.319	44.972	.51697E-02
5648.9	2.0014	12.130	11.298	.14160E-01	30.482	44.967	.51983E-02
5679.8	2.0039	12.196	11.360	.14238E-01	30.645	44.962	.52271E-02
5710.8	2.0065	12.263	11.422	.14316E-01	30.809	44.957	.52560E-02
5742.1	2.0090	12.331	11.484	.14394E-01	30.974	44.952	.52851E-02
5773.5	2.0115	12.398	11.547	.14473E-01	31.140	44.948	.53143E-02
5805.0	2.0141	12.466	11.610	.14553E-01	31.307	44.943	.53437E-02
5836.8	2.0166	12.535	11.674	.14632E-01	31.475	44.938	.53733E-02
5868.7	2.0191	12.604	11.737	.14712E-01	31.644	44.933	.54039E-02
5900.8	2.0217	12.673	11.800	.14793E-01	31.813	44.928	.54329E-02
5933.1	2.0242	12.742	11.866	.14874E-01	31.984	44.923	.54633E-02
5965.5	2.0268	12.812	11.931	.14955E-01	32.155	44.918	.54932E-02

71

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	MTB(I)
/ 6/	TRAJ	1	MTBR
/ 7/	TRAJ	1	SRF(I)
/ 8/	TRAJ	1	DB-L(II)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
5990.2	2.0293	12.883	11.995	.15037E-01	32.327	44.913	.55235E-02
6031.0	2.0318	12.953	12.062	.15120E-01	32.500	44.908	.55541E-02
6064.0	2.0344	13.024	12.128	.15202E-01	32.674	44.903	.55849E-02
6097.1	2.0369	13.096	12.194	.15286E-01	32.849	44.897	.56158E-02
6130.5	2.0395	13.168	12.261	.15369E-01	33.025	44.892	.56468E-02
6164.0	2.0420	13.240	12.328	.15453E-01	33.202	44.887	.56780E-02
6197.7	2.0445	13.313	12.395	.15538E-01	33.380	44.882	.57094E-02
6231.6	2.0471	13.386	12.463	.15623E-01	33.559	44.877	.57410E-02
6265.7	2.0496	13.459	12.531	.15708E-01	33.738	44.871	.57727E-02
6300.?	2.0522	13.533	12.600	.15794E-01	33.919	44.866	.58047E-02
6334.5	2.0547	13.608	12.669	.15881E-01	34.100	44.861	.58367E-02
6369.1	2.0572	13.682	12.738	.15968E-01	34.283	44.855	.58690E-02
6404.0	2.0598	13.758	12.808	.16055E-01	34.466	44.850	.59014E-02
6439.0	2.0623	13.833	12.878	.16143E-01	34.650	44.844	.59341E-02
6474.3	2.0649	13.909	12.949	.16231E-01	34.836	44.839	.59669E-02
6509.7	2.0674	13.985	13.019	.16320E-01	35.022	44.833	.59998E-02
6545.3	2.0699	14.062	13.091	.16409E-01	35.209	44.828	.60330E-02
6581.1	2.0725	14.140	13.162	.16498E-01	35.398	44.822	.60663E-02
6617.1	2.0750	14.217	13.234	.16589E-01	35.587	44.817	.60993E-02
6653.3	2.0776	14.295	13.307	.16679E-01	35.777	44.811	.61336E-02
6689.7	2.0801	14.374	13.379	.16773E-01	35.968	44.805	.61674E-02
6726.3	2.0826	14.453	13.453	.16862E-01	36.161	44.800	.62015E-02
6763.1	2.0852	14.532	13.526	.16954E-01	36.354	44.794	.62358E-02
6800.2	2.0877	14.612	13.600	.17047E-01	36.548	44.788	.62702E-02
6837.4	2.0903	14.692	13.675	.17140E-01	36.743	44.783	.63049E-02
6874.8	2.0928	14.773	13.750	.17233E-01	36.940	44.777	.63392E-02
6912.4	2.0953	14.854	13.825	.17327E-01	37.137	44.771	.63747E-02
6950.2	2.0979	14.936	13.900	.17422E-01	37.335	44.765	.64099E-02
6988.3	2.1004	15.018	13.977	.17517E-01	37.535	44.759	.64453E-02
7026.5	2.1030	15.100	14.053	.17613E-01	37.735	44.753	.64809E-02
7065.0	2.1055	15.183	14.130	.17709E-01	37.937	44.747	.65167E-02
7103.7	2.1080	15.267	14.207	.17805E-01	38.139	44.741	.65527E-02
7142.5	2.1106	15.351	14.285	.17902E-01	38.343	44.735	.65889E-02
7181.6	2.1131	15.435	14.363	.18000E-01	38.547	44.729	.66253E-02
7220.9	2.1157	15.520	14.442	.18098E-01	38.753	44.723	.66618E-02
7260.5	2.1182	15.605	14.521	.18197E-01	38.960	44.717	.66986E-02
7300.2	2.1207	15.691	14.600	.18296E-01	39.165	44.711	.67356E-02
7340.2	2.1233	15.777	14.680	.18396E-01	39.377	44.705	.67728E-02
7380.4	2.1258	15.864	14.761	.18496E-01	39.587	44.698	.68102E-02
7420.8	2.1284	15.951	14.842	.18696E-01	39.798	44.692	.68478E-02
7461.4	2.1309	16.039	14.923	.18696E-01	40.010	44.686	.68855E-02
7502.2	2.1334	16.127	15.004	.18800E-01	40.223	44.679	.69236E-02
7543.3	2.1360	16.216	15.087	.18903E-01	40.438	44.673	.69618E-02
7584.6	2.1385	16.305	15.169	.19006E-01	40.653	44.657	.70002E-02
7626.1	2.1411	16.395	15.252	.19109E-01	40.870	44.650	.70388E-02
7667.9	2.1436	16.485	15.336	.19213E-01	41.088	44.654	.70777E-02
7709.9	2.1461	16.576	15.420	.19318E-01	41.307	44.647	.71167E-02

CLOSED BOMB *** NO AIR ***

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	POOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(I)
/ 6/	TRAJ	1	WTBR
/ 7/	TRAJ	1	SRF(I)
/ 8/	TRAJ	A	DB-LG(I)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
7752.1	2.1487	16.667	15.504	.19423E-01	41.527	44.641	.71560E-02
7794.5	2.1512	16.758	15.589	.19529E-01	41.748	44.634	.71955E-02
7837.2	2.1538	16.851	15.674	.19635E-01	41.971	44.627	.72352E-02
7880.1	2.1563	16.943	15.760	.19742E-01	42.194	44.621	.72751E-02
7923.3	2.1588	17.037	15.847	.19849E-01	42.419	44.614	.73152E-02
7966.7	2.1614	17.130	15.933	.19957E-01	42.645	44.607	.73555E-02
8010.3	2.1639	17.224	16.021	.20066E-01	42.872	44.601	.73962E-02
8054.2	2.1665	17.319	16.108	.20175E-01	43.103	44.594	.74370E-02
8098.3	2.1690	17.415	16.197	.20285E-01	43.329	44.587	.74780E-02
8142.6	2.1715	17.510	16.285	.20395E-01	43.560	44.580	.75193E-02
8187.2	2.1741	17.607	16.374	.20506E-01	43.792	44.573	.75607E-02
8232.1	2.1766	17.704	16.464	.20618E-01	44.025	44.565	.76024E-02
8277.1	2.1792	17.801	16.554	.20730E-01	44.259	44.559	.76444E-02
8322.5	2.1817	17.899	16.645	.20843E-01	44.494	44.552	.76865E-02
8368.1	2.1842	17.997	16.736	.20956E-01	44.731	44.545	.77289E-02
8413.9	2.1868	18.096	16.828	.21070E-01	44.969	44.538	.77715E-02
8460.0	2.1893	18.196	16.920	.21184E-01	45.208	44.531	.78144E-02
8506.3	2.1919	18.296	17.013	.21299E-01	45.448	44.524	.78575E-02
8552.9	2.1944	18.397	17.106	.21415E-01	45.690	44.517	.79008E-02
8599.8	2.1969	18.498	17.200	.21531E-01	45.932	44.509	.79444E-02
8646.9	2.1995	18.600	17.294	.21648E-01	46.176	44.502	.79882E-02
8694.3	2.2020	18.702	17.389	.21766E-01	46.422	44.495	.80322E-02
8741.9	2.2046	18.805	17.484	.21884E-01	46.668	44.487	.80765E-02
8789.8	2.2071	18.909	17.580	.22003E-01	46.916	44.480	.81213E-02
8837.9	2.2096	19.013	17.676	.22123E-01	47.165	44.472	.81658E-02
8886.4	2.2122	19.118	17.773	.22243E-01	47.416	44.465	.82108E-02
8935.1	2.2147	19.223	17.870	.22363E-01	47.667	44.457	.82561E-02
8984.0	2.2173	19.329	17.968	.22485E-01	47.920	44.450	.83015E-02
9033.2	2.2198	19.435	18.066	.22607E-01	48.175	44.442	.83473E-02
9082.7	2.2223	19.542	18.165	.22729E-01	48.430	44.434	.83934E-02
9132.5	2.2249	19.650	18.265	.22853E-01	48.687	44.427	.84396E-02
9182.5	2.2274	19.758	18.365	.22977E-01	48.945	44.419	.84861E-02
9232.9	2.2300	19.867	18.466	.23101E-01	49.205	44.411	.85329E-02
9283.5	2.2325	19.976	18.567	.23227E-01	49.466	44.403	.85799E-02
9334.3	2.2350	20.086	18.669	.23353E-01	49.728	44.395	.86272E-02
9385.5	2.2376	20.197	18.771	.23479E-01	49.992	44.388	.86748E-02
9436.9	2.2401	20.308	18.874	.23607E-01	50.257	44.380	.87226E-02
9488.7	2.2427	20.420	18.977	.23735E-01	50.523	44.372	.87706E-02
9540.7	2.2452	20.533	19.081	.23863E-01	50.791	44.364	.88190E-02
9593.0	2.2477	20.646	19.185	.23993E-01	51.060	44.355	.88676E-02
9645.5	2.2503	20.760	19.291	.24123E-01	51.330	44.347	.89164E-02
9698.4	2.2528	20.874	19.397	.24253E-01	51.602	44.339	.89656E-02
9751.6	2.2554	20.989	19.503	.24385E-01	51.875	44.331	.90150E-02
9805.0	2.2579	21.105	19.610	.24517E-01	52.150	44.323	.90645E-02
9858.8	2.2604	21.221	19.718	.24650E-01	52.426	44.314	.91146E-02
9912.8	2.2630	21.338	19.826	.24783E-01	52.703	44.306	.91648E-02
9967.2	2.2655	21.455	19.934	.24917E-01	52.982	44.297	.92153E-02

TRAJECTORY VARIABLES:
/1/ TRAJ 1 BRCH
/2/ TRAJ 1 TIME
/3/ TRAJ 1 PDOT
/4/ TRAJ 1 BR-L
/5/ TRAJ 1 WTB(1)
/6/ TRAJ 1 WTBR
/7/ TRAJ 1 SRF(1)
/8/ TRAJ 1 DB-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
10022.	2.2681	21.574	20.044	.25052E-01	53.263	44.289	.92663E-02
10077.	2.2706	21.693	20.153	.25188E-01	53.544	44.280	.93171E-02
10132.	2.2731	21.812	20.264	.25324E-01	53.828	44.272	.93684E-02
10188.	2.2757	21.932	20.375	.25461E-01	54.112	44.263	.94200E-02
10243.	2.2782	22.053	20.487	.25599E-01	54.398	44.255	.94719E-02
10300.	2.2807	22.175	20.599	.25738E-01	54.686	44.246	.95241E-02
10356.	2.2833	22.297	20.712	.25877E-01	54.975	44.237	.95765E-02
10413.	2.2858	22.420	20.826	.26017E-01	55.265	44.228	.96293E-02
10470.	2.2884	22.544	20.943	.26158E-01	55.557	44.220	.96823E-02
10527.	2.2909	22.663	21.055	.26299E-01	55.851	44.211	.97357E-02
10585.	2.2934	22.793	21.170	.26441E-01	56.145	44.202	.97693E-02
10643.	2.2960	22.919	21.286	.26584E-01	56.442	44.193	.98432E-02
10701.	2.2985	23.045	21.403	.26728E-01	56.740	44.184	.98974E-02
10760.	2.3011	23.172	21.520	.26873E-01	57.039	44.175	.99519E-02
10819.	2.3036	23.300	21.638	.27018E-01	57.340	44.166	.10007E-01
10879.	2.3061	23.429	21.757	.27164E-01	57.643	44.156	.10062E-01
10938.	2.3087	23.558	21.876	.27311E-01	57.947	44.147	.10117E-01
10998.	2.3112	23.688	21.996	.27458E-01	58.252	44.138	.10173E-01
11059.	2.3138	23.818	22.117	.27607E-01	58.560	44.129	.10229E-01
11119.	2.3163	23.950	22.238	.27756E-01	58.868	44.119	.10285E-01
11180.	2.3188	24.082	22.360	.27906E-01	59.179	44.113	.10342E-01
11242.	2.3214	24.215	22.483	.28056E-01	59.490	44.100	.10399E-01
11303.	2.3239	24.348	22.606	.28208E-01	59.804	44.091	.10455E-01
11365.	2.3265	24.483	22.730	.28360E-01	60.119	44.081	.10514E-01
11428.	2.3290	24.618	22.855	.28513E-01	60.435	44.071	.10572E-01
11490.	2.3315	24.754	22.981	.28667E-01	60.754	44.062	.10630E-01
11553.	2.3341	24.890	23.107	.28822E-01	61.073	44.052	.10688E-01
11617.	2.3366	25.028	23.233	.28977E-01	61.395	44.042	.10747E-01
11680.	2.3392	25.166	23.361	.29134E-01	61.716	44.032	.10806E-01
11745.	2.3417	25.305	23.489	.29291E-01	62.043	44.022	.10866E-01
11809.	2.3442	25.444	23.618	.29449E-01	62.369	44.012	.10925E-01
11874.	2.3468	25.585	23.748	.29606E-01	62.697	44.002	.10986E-01
11939.	2.3493	25.726	23.878	.29767E-01	63.026	43.992	.11045E-01
12004.	2.3519	25.868	24.009	.29928E-01	63.358	43.982	.11107E-01
12070.	2.3544	26.011	24.141	.30089E-01	63.691	43.972	.11165E-01
12137.	2.3569	26.154	24.273	.30251E-01	64.025	43.962	.11230E-01
12203.	2.3595	26.299	24.406	.30414E-01	64.362	43.951	.11292E-01
12270.	2.3620	26.444	24.540	.30578E-01	64.700	43.941	.11354E-01
12338.	2.3645	26.590	24.675	.30743E-01	65.039	43.931	.11416E-01
12405.	2.3671	26.737	24.810	.30909E-01	65.381	43.920	.11479E-01
12473.	2.3696	26.885	24.947	.31075E-01	65.724	43.910	.11542E-01
12542.	2.3722	27.033	25.084	.31242E-01	66.069	43.899	.11606E-01
12611.	2.3747	27.182	25.221	.31411E-01	66.415	43.888	.11670E-01
12680.	2.3773	27.333	25.360	.31580E-01	66.764	43.878	.11734E-01
12749.	2.3798	27.484	25.499	.31751E-01	67.114	43.867	.11798E-01
12819.	2.3823	27.635	25.639	.31921E-01	67.465	43.856	.11863E-01
12890.	2.3849	27.798	25.780	.32093E-01	67.819	43.845	.11929E-01

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	MTB(1)
/ 6/	TRAJ	1	MTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	OB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
12961.	2.3874	27.942	25.921	.32265E-01	68.174	43.834	.11994E-01
13032.	2.3900	28.096	26.064	.32439E-01	68.531	43.823	.12060E-01
13103.	2.3925	28.251	26.207	.32613E-01	68.890	43.812	.12127E-01
13175.	2.3950	28.407	26.351	.32789E-01	69.251	43.801	.12194E-01
13248.	2.3976	28.544	26.495	.32965E-01	69.614	43.790	.12261E-01
13320.	2.4001	28.?2	26.641	.33142E-01	69.978	43.779	.12328E-01
13394.	2.4027	28.881	26.787	.33321E-01	70.344	43.767	.12396E-01
13467.	2.4052	29.040	26.934	.33500E-01	70.712	43.755	.12464E-01
13541.	2.4077	29.201	27.082	.33680E-01	71.082	43.745	.12533E-01
13615.	2.4103	29.362	27.231	.33861E-01	71.453	43.733	.12602E-01
13690.	2.4128	29.525	27.380	.34043E-01	71.827	43.721	.12671E-01
13765.	2.4154	29.688	27.531	.34226E-01	72.202	43.710	.12741E-01
13841.	2.4179	29.852	27.682	.34409E-01	72.579	43.698	.12811E-01
13917.	2.4204	30.017	27.834	.34594E-01	72.958	43.686	.12881E-01
13993.	2.4230	30.183	27.987	.34780E-01	73.339	43.675	.12952E-01
14070.	2.4255	30.350	28.141	.34967E-01	73.722	43.663	.13024E-01
14148.	2.4281	30.518	28.295	.35155E-01	74.107	43.651	.13095E-01
14225.	2.4306	30.686	28.451	.35343E-01	74.493	43.639	.13167E-01
14304.	2.4331	30.856	28.607	.35533E-01	74.882	43.627	.13240E-01
14382.	2.4357	31.027	28.764	.35724E-01	75.272	43.615	.13313E-01
14461.	2.4382	31.198	28.922	.35915E-01	75.665	43.602	.13386E-01
14541.	2.4408	31.371	29.081	.36108E-01	76.059	43.590	.13460E-01
14620.	2.4433	31.544	29.241	.36302E-01	76.455	43.578	.13534E-01
14701.	2.4459	31.719	29.402	.36496E-01	76.854	43.565	.13608E-01
14782.	2.4484	31.894	29.563	.36692E-01	77.254	43.553	.13683E-01
14863.	2.4509	32.071	29.726	.36889E-01	77.655	43.543	.13758E-01
14945.	2.4535	32.248	29.889	.37087E-01	78.060	43.528	.13834E-01
15027.	2.4560	32.426	30.053	.37285E-01	78.466	43.515	.13910E-01
15109.	2.4585	32.606	30.218	.37485E-01	78.874	43.502	.13987E-01
15192.	2.4611	32.786	30.385	.37686E-01	79.284	43.489	.14064E-01
15276.	2.4636	32.967	30.552	.37888E-01	79.696	43.477	.14141E-01
15360.	2.4662	33.150	30.719	.38091E-01	80.111	43.464	.14219E-01
15444.	2.4687	33.333	30.888	.38295E-01	80.527	43.450	.14297E-01
15529.	2.4712	33.518	31.058	.38500E-01	80.945	43.437	.14376E-01
15614.	2.4738	33.703	31.229	.38706E-01	81.365	43.424	.14455E-01
15700.	2.4763	33.893	31.401	.38913E-01	81.788	43.411	.14534E-01
15787.	2.4789	34.077	31.573	.39121E-01	82.212	43.398	.14614E-01
15873.	2.4814	34.256	31.747	.39331E-01	82.638	43.386	.14695E-01
15961.	2.4839	34.456	31.921	.39541E-01	83.067	43.371	.14776E-01
16048.	2.4865	34.646	32.097	.39753E-01	83.497	43.357	.14857E-01
16137.	2.4890	34.838	32.273	.39965E-01	83.930	43.344	.14939E-01
16225.	2.4915	35.031	32.451	.40179E-01	84.365	43.330	.15021E-01
16315.	2.4941	35.225	32.629	.40394E-01	84.802	43.316	.15103E-01
16404.	2.4966	35.420	32.807	.40615E-01	85.241	43.302	.15187E-01
16494.	2.4992	35.616	32.989	.40827E-01	85.682	43.288	.15273E-01
16585.	2.5017	35.813	33.170	.41045E-01	86.126	43.274	.15354E-01
16676.	2.5043	36.011	33.353	.41264E-01	86.571	43.260	.15439E-01

TRAJECTORY VARIABLES:

/1/	TRAJ	1	BRCH
/2/	TRAJ	1	TIME
/3/	TRAJ	1	PUOT
/4/	TRAJ	1	BR-L
/5/	TRAJ	1	WTB(1)
/6/	TRAJ	1	WTBR
/7/	TRAJ	1	SRF(1)
/8/	TRAJ	1	DB-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
16768.	2.5068	36.211	33.535	.41485E-01	87.019	43.246	.15524E-01
16860.	2.5093	36.411	33.721	.41705E-01	87.468	43.232	.15603E-01
16953.	2.5119	36.613	33.906	.41929E-01	87.920	43.218	.15695E-01
17046.	2.5144	36.816	34.093	.42153E-01	88.375	43.203	.15781E-01
17140.	2.5170	37.020	34.280	.42378E-01	88.831	43.189	.15868E-01
17234.	2.5195	37.225	34.469	.42604E-01	89.289	43.174	.15955E-01
17329.	2.5220	37.431	34.658	.42832E-01	89.750	43.159	.16043E-01
17424.	2.5246	37.638	34.849	.43060E-01	90.213	43.145	.16131E-01
17520.	2.5271	37.847	35.041	.43290E-01	90.678	43.130	.16220E-01
17617.	2.5297	38.056	35.233	.43521E-01	91.146	43.115	.16309E-02
17714.	2.5322	38.267	35.427	.43753E-01	91.615	43.100	.16399E-01
17811.	2.5347	38.479	35.622	.43986E-01	92.087	43.085	.16489E-01
17909.	2.5373	38.692	35.818	.44221E-01	92.562	43.070	.16580E-01
18008.	2.5398	38.907	36.015	.44456E-01	93.038	43.055	.16671E-01
18107.	2.5423	39.122	36.214	.44693E-01	93.517	43.040	.16763E-01
18206.	2.5449	39.339	36.413	.44931E-01	93.998	43.024	.16855E-01
18306.	2.5474	39.557	36.613	.45171E-01	94.481	43.009	.16948E-01
18407.	2.5500	39.776	36.815	.45411E-01	94.967	42.993	.17041E-01
18509.	2.5525	39.997	37.017	.45653E-01	95.455	42.978	.17135E-01
18611.	2.5550	40.218	37.221	.45896E-01	95.945	42.962	.17229E-01
18713.	2.5575	40.441	37.425	.46140E-01	96.437	42.946	.17324E-01
18816.	2.5601	40.665	37.632	.46386E-01	96.932	42.930	.17419E-01
18920.	2.5627	40.891	37.839	.46633E-01	97.430	42.914	.17515E-01
19024.	2.5652	41.117	38.047	.46881E-01	97.929	42.898	.17612E-01
19128.	2.5677	41.345	38.257	.47130E-01	98.431	42.882	.17709E-01
19234.	2.5703	41.574	38.467	.47381E-01	98.936	42.856	.17806E-01
19340.	2.5728	41.805	38.679	.47633E-01	99.442	42.849	.17904E-01
19446.	2.5754	42.037	38.892	.47886E-01	99.952	42.833	.18002E-01
19553.	2.5779	42.270	39.106	.48140E-01	100.46	42.816	.18101E-01
1966!.	2.5804	42.504	39.321	.48396E-01	100.98	42.800	.18201E-01
19769.	2.5830	42.740	39.538	.48653E-01	101.49	42.783	.18301E-01
19878.	2.5855	42.977	39.756	.48912E-01	102.01	42.765	.18402E-01
19987.	2.5881	43.215	39.975	.49172E-01	102.53	42.749	.18503E-01
20097.	2.5906	43.454	40.195	.49433E-01	103.06	42.733	.18605E-01
20208.	2.5931	43.695	40.415	.49695E-01	103.58	42.715	.18707E-01
20319.	2.5957	43.938	40.639	.49959E-01	104.11	42.698	.18810E-01
20431.	2.5982	44.181	40.862	.50224E-01	104.64	42.681	.18914E-01
20544.	2.6008	44.426	41.087	.50490E-01	105.18	42.664	.19018E-01
20657.	2.6033	44.673	41.314	.50758E-01	105.71	42.646	.19122E-01
20771.	2.6058	44.920	41.541	.51027E-01	106.25	42.629	.19228E-01
20885.	2.6084	45.169	41.770	.51298E-01	106.79	42.611	.19335E-01
21000.	2.6109	45.420	42.000	.51570E-01	107.34	42.593	.19440E-01
21116.	2.6135	45.672	42.232	.51843E-01	107.88	42.576	.19547E-01
21232.	2.6160	45.925	42.464	.52118E-01	108.43	42.558	.19654E-01
21349.	2.6185	46.180	42.698	.52394E-01	108.98	42.540	.19762E-01
21467.	2.6211	46.436	42.933	.52671E-01	109.54	42.521	.19871E-01
21585.	2.6235	46.694	43.173	.52950E-01	110.03	42.503	.19981E-01

CLOSED BOMB *** NO AIR ***

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	MTB(1)
/ 6/	TRAJ	1	MTBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
21704.	2.6262	46.953	43.408	.53231E-01	110.65	42.485	.20090E-01
21823.	2.6287	47.213	43.647	.53512E-01	111.21	42.465	.20201E-01
21944.	2.6312	47.475	43.887	.53796E-01	111.78	42.448	.20312E-01
22065.	2.6338	47.738	44.129	.54080E-01	112.34	42.429	.20424E-01
22186.	2.6363	48.003	44.372	.54366E-01	112.91	42.411	.20536E-01
22308.	2.6389	48.269	44.617	.54654E-01	113.48	42.392	.20649E-01
22431.	2.6414	48.537	44.863	.54943E-01	114.06	42.373	.20763E-01
22555.	2.6439	48.806	45.110	.55233E-01	114.63	42.354	.20877E-01
22679.	2.6465	49.077	45.359	.55525E-01	115.21	42.335	.20992E-01
22804.	2.6490	49.349	45.609	.55818E-01	115.80	42.315	.21108E-01
22930.	2.6516	49.623	45.860	.56113E-01	116.38	42.296	.21224E-01
23056.	2.6541	49.898	46.113	.56413E-01	116.97	42.277	.21341E-01
23183.	2.6566	50.175	46.367	.56707E-01	117.56	42.257	.21458E-01
23311.	2.6592	50.454	46.622	.57007E-01	118.15	42.237	.21575E-01
23440.	2.6617	50.734	46.879	.57308E-01	118.75	42.218	.21695E-01
23569.	2.6643	51.015	47.138	.57610E-01	119.35	42.198	.21814E-01
23679.	2.6668	51.298	47.398	.57914E-01	119.95	42.178	.21934E-01
23800.	2.6693	51.583	47.659	.58219E-01	120.55	42.157	.22055E-01
23461.	2.6719	51.869	47.922	.58526E-01	121.16	42.137	.22176E-01
24093.	2.6744	52.157	48.185	.58835E-01	121.77	42.117	.22298E-01
24226.	2.6770	52.446	48.452	.59145E-01	122.38	42.095	.22421E-01
24359.	2.6795	52.737	48.719	.59456E-01	122.99	42.076	.22545E-01
24494.	2.6820	53.030	48.987	.59769E-01	123.61	42.055	.22669E-01
24629.	2.6845	53.324	49.258	.60084E-01	124.23	42.034	.22793E-01
24765.	2.6871	53.620	49.529	.60400E-01	124.85	42.014	.22919E-01
24901.	2.6897	53.917	49.802	.60718E-01	125.48	41.993	.23045E-01
25038.	2.6922	54.216	50.077	.61038E-01	126.11	41.971	.23172E-01
25177.	2.6947	54.517	50.353	.61359E-01	126.74	41.950	.23299E-01
25315.	2.6973	54.820	50.631	.61682E-01	127.37	41.929	.23429E-01
25455.	2.6998	55.124	50.910	.62006E-01	128.01	41.907	.23557E-01
25595.	2.7024	55.430	51.191	.62332E-01	128.65	41.886	.23685E-01
25737.	2.7049	55.737	51.473	.62659E-01	129.29	41.864	.23817E-01
25879.	2.7074	56.046	51.757	.62989E-01	129.94	41.842	.23948E-01
26021.	2.7100	56.357	52.042	.63319E-01	130.59	41.820	.24079E-01
26165.	2.7125	56.670	52.330	.63652E-01	131.24	41.798	.24212E-01
26309.	2.7151	56.984	52.618	.63986E-01	131.89	41.776	.24345E-01
26454.	2.7176	57.300	52.908	.64322E-01	132.55	41.753	.24479E-01
26600.	2.7201	57.618	53.200	.64659E-01	133.21	41.731	.24614E-01
26747.	2.7227	57.938	53.494	.64999E-01	133.87	41.708	.24750E-01
26894.	2.7252	58.259	53.789	.65339E-01	134.53	41.686	.24885E-01
27043.	2.7278	58.583	54.086	.65682E-01	135.20	41.663	.25023E-01
27192.	2.7303	58.908	54.384	.66025E-01	135.87	41.641	.25151E-01
27342.	2.7328	59.234	54.684	.66372E-01	136.55	41.617	.25299E-01
27493.	2.7354	59.563	54.985	.66720E-01	137.22	41.594	.25435E-01
27645.	2.7379	59.893	55.289	.67069E-01	137.90	41.570	.25578E-01
27797.	2.7405	60.226	55.594	.67420E-01	138.59	41.547	.25719E-01
27951.	2.7430	60.560	55.901	.67773E-01	139.27	41.523	.25861E-01

TRAJECTORY VARIABLES:

/1/ TRAJ	1 BRCH
/2/ TRAJ	1 TIME
/3/ TRAJ	1 PDOT
/4/ TRAJ	1 BR-L
/5/ TRAJ	2 WTB(1)
/6/ TRAJ	1 WTBR
/7/ TRAJ	1 SRF(1)
/8/ TRAJ	1 DB-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
28105.	2.7455	60.895	56.213	.58128E-01	139.96	41.499	.26003E-01
28260.	2.7481	61.233	56.520	.68484E-01	140.65	41.475	.26146E-01
28416.	2.7506	61.573	56.832	.68842E-01	141.35	41.452	.26290E-01
28573.	2.7532	61.914	57.145	.59202E-01	142.04	41.428	.26435E-01
28730.	2.7557	62.258	57.461	.59564E-01	142.74	41.403	.26580E-01
28889.	2.7582	62.603	57.778	.69927E-01	143.45	41.379	.26727E-01
29048.	2.7608	62.950	58.097	.70292E-01	144.15	41.354	.26874E-01
29209.	2.7633	63.299	58.417	.70659E-01	144.86	41.330	.27022E-01
29370.	2.7659	63.650	58.740	.71028E-01	145.57	41.305	.27171E-01
29532.	2.7684	64.003	59.064	.71399E-01	146.29	41.280	.27320E-01
29695.	2.7709	64.358	59.391	.71771E-01	147.01	41.255	.27471E-01
29859.	2.7735	64.715	59.718	.72146E-01	147.73	41.230	.27622E-01
30024.	2.7760	65.073	60.047	.72522E-01	148.45	41.204	.27774E-01
30189.	2.7786	65.434	60.379	.72900E-01	149.18	41.179	.27927E-01
30356.	2.7811	65.797	60.712	.73280E-01	149.91	41.153	.28061E-01
30524.	2.7836	66.161	61.047	.73661E-01	150.64	41.127	.28235E-01
30692.	2.7862	66.528	61.384	.74045E-01	151.38	41.102	.28391E-01
30862.	2.7887	66.897	61.723	.74430E-01	152.12	41.075	.28547E-01
31032.	2.7913	67.267	62.064	.74817E-01	152.86	41.049	.28704E-01
31203.	2.7938	67.640	62.407	.75207E-01	153.61	41.023	.28862E-01
31376.	2.7963	68.015	62.751	.75598E-01	154.35	40.995	.29021E-01
31549.	2.7989	68.392	63.098	.75991E-01	155.11	40.970	.29181E-01
31723.	2.8014	68.771	63.446	.76386E-01	155.86	40.943	.29342E-01
31898.	2.8040	69.152	63.796	.76782E-01	156.62	40.918	.29504E-01
32074.	2.8065	69.535	64.149	.77181E-01	157.38	40.889	.29666E-01
32251.	2.8090	69.920	64.503	.77582E-01	158.14	40.862	.29829E-01
32429.	2.8116	70.307	64.859	.77984E-01	158.91	40.834	.29994E-01
32608.	2.8141	70.696	65.217	.78389E-01	159.68	40.807	.30159E-01
32789.	2.8166	71.088	65.577	.78796E-01	160.45	40.779	.30325E-01
32970.	2.8192	71.481	65.939	.79204E-01	161.23	40.751	.30492E-01
33152.	2.8217	71.877	66.303	.79615E-01	162.01	40.723	.30663E-01
33335.	2.8243	72.275	66.669	.80027E-01	162.79	40.695	.30829E-01
33519.	2.8268	72.675	67.038	.80441E-01	163.57	40.667	.30997E-01
33704.	2.8293	73.077	67.408	.80858E-01	164.36	40.638	.31169E-01
33890.	2.8319	73.481	67.780	.81275E-01	165.15	40.613	.31341E-01
34077.	2.8344	73.898	68.154	.81697E-01	165.95	40.581	.31514E-01
34265.	2.8370	74.297	68.531	.82119E-01	166.74	40.552	.31687E-01
34455.	2.8395	74.708	68.909	.82544E-01	167.54	40.523	.31862E-01
34645.	2.8420	75.121	69.290	.82970E-01	168.35	40.494	.32037E-01
34836.	2.8446	75.536	69.672	.83399E-01	169.15	40.464	.32214E-01
35028.	2.8471	75.954	70.057	.83830E-01	169.96	40.435	.32391E-01
35222.	2.8497	76.374	70.444	.84262E-01	170.78	40.405	.32570E-01
35416.	2.8522	76.796	70.833	.84697E-01	171.59	40.375	.32749E-01
35612.	2.8547	77.220	71.224	.85134E-01	172.41	40.345	.32929E-01
35809.	2.8573	77.647	71.617	.95573E-01	173.23	40.315	.33111E-01
36006.	2.8598	78.076	72.013	.86014E-01	174.06	40.284	.33293E-01
36205.	2.8624	78.507	72.411	.86457E-01	174.89	40.254	.33477E-01

CLOSED BOMB *** NO AIR ***

TRAJECTORY VARIABLES:

/ 1/	TRAJ	1	BRCH
/ 2/	TRAJ	1	TIME
/ 3/	TRAJ	1	PDOT
/ 4/	TRAJ	1	BR-L
/ 5/	TRAJ	1	WTB(1)
/ 6/	TRAJ	1	WFBR
/ 7/	TRAJ	1	SRF(1)
/ 8/	TRAJ	1	DB-L(1)

/ 1/	/ 2/	/ 3/	/ 4/	/ 5/	/ 6/	/ 7/	/ 8/
36405.	2.8649	78.941	72.810	.86902E-01	175.72	40.223	.33661E-01
36606.	2.8674	79.377	73.213	.87353E-01	176.55	40.192	.33846E-01
36808.	2.8700	79.815	73.617	.87799E-01	177.39	40.161	.34033E-01
37012.	2.8725	80.256	74.023	.98251E-01	178.23	40.130	.34220E-01
37216.	2.8751	80.699	74.432	.88704E-01	179.08	40.099	.34409E-01
37422.	2.8775	81.144	74.843	.89160E-01	179.92	40.067	.34598E-01
37628.	2.8801	81.592	75.257	.89618E-01	180.77	40.035	.34789E-01
37836.	2.8827	82.042	75.672	.90079E-01	181.63	40.003	.34981E-01
38045.	2.8852	82.495	76.090	.90541E-01	182.48	39.971	.35173E-01
38255.	2.8878	82.950	76.510	.91006E-01	183.34	39.939	.35367E-01
38466.	2.8903	83.407	76.933	.91472E-01	184.21	39.906	.35562E-01
38679.	2.8928	83.667	77.358	.91941E-01	185.07	39.874	.35758E-01
38892.	2.8954	84.329	77.785	.92412E-01	185.94	39.841	.35955E-01
39107.	2.8979	84.794	78.214	.92885E-01	186.81	39.805	.36153E-01
39323.	2.9005	85.261	78.646	.93361E-01	187.69	39.775	.36352E-01
39540.	2.9030	85.731	79.081	.93839E-01	188.57	39.741	.36553E-01
39759.	2.9055	86.203	79.517	.94319E-01	189.45	39.705	.36754E-01
39978.	2.9081	86.678	79.955	.94801E-01	190.33	39.674	.36957E-01
40199.	2.9106	87.155	80.398	.95286E-01	191.22	39.640	.37160E-01
40421.	2.9132	87.634	80.842	.95773E-01	192.11	39.606	.37365E-01
40644.	2.9157	88.117	81.288	.96262E-01	193.00	39.572	.37571E-01
40868.	2.9182	88.601	81.737	.96753E-01	193.90	39.537	.37778E-01
41094.	2.9208	89.088	82.188	.97247E-01	194.80	39.502	.37986E-01
41321.	2.9233	89.578	82.642	.97743E-01	195.70	39.467	.38195E-01
41549.	2.9259	90.071	83.098	.98241E-01	196.61	39.432	.38406E-01
41779.	2.9284	90.565	83.557	.98741E-01	197.51	39.397	.38617E-01
42009.	2.9309	91.063	84.018	.99244E-01	198.43	39.362	.38830E-01
42241.	2.9335	91.563	84.482	.99749E-01	199.34	39.325	.39044E-01
42474.	2.9360	92.066	84.949	.10026	200.26	39.290	.39259E-01
42709.	2.9386	92.571	85.418	.10077	201.18	39.254	.39475E-01
42945.	2.9411	93.079	85.889	.10128	202.10	39.218	.39693E-01
43182.	2.9436	93.590	86.363	.10179	203.03	39.181	.39912E-01
43420.	2.9462	94.103	86.640	.10231	203.96	39.145	.40132E-01
43660.	2.9487	94.619	87.319	.10283	204.89	39.108	.40353E-01
43901.	2.9513	95.137	87.601	.10335	205.83	39.071	.40575E-01
44143.	2.9538	95.658	88.285	.10387	206.77	39.033	.40799E-01
44386.	2.9563	96.182	88.773	.10440	207.71	38.995	.41024E-01
44631.	2.9589	96.709	89.263	.10493	208.65	38.958	.41250E-01
44878.	2.9614	97.238	89.755	.10546	209.60	38.920	.41477E-01
45125.	2.9640	97.770	90.251	.10599	210.55	38.882	.41705E-01
45374.	2.9655	98.304	90.744	.10653	211.50	38.844	.41935E-01
45625.	2.9690	98.842	91.249	.10707	212.46	38.805	.42167E-01
45676.	2.9716	99.382	91.753	.10761	213.42	38.767	.42399E-01
46130.	2.9741	99.925	92.259	.10815	214.38	38.728	.42633E-01
46384.	2.9767	100.47	92.768	.10870	215.34	38.689	.42868E-01
46640.	2.9792	101.02	93.280	.10925	216.31	38.647	.43104E-01
46897.	2.9817	101.57	93.794	.10980	217.28	38.613	.43342E-01

TRAJECTORY VARIABLES:

/1/	TRAJ	1 BRCH
/2/	TRAJ	1 TIME
/3/	TRAJ	1 PDOT
/4/	TRAJ	1 BR-L
/5/	TRAJ	1 WTB(1)
/6/	TRAJ	1 WTBR
/7/	TRAJ	1 SRF(1)
/8/	TRAJ	1 DB-L(1)

/1/	/2/	/3/	/4/	/5/	/6/	/7/	/8/
47156.	2.9843	102.12	94.312	.11035	218.26	38.577	.43581E-01
47416.	2.9868	102.68	94.832	.11091	219.23	38.530	.43821E-01
47677.	2.9894	103.24	95.355	.11146	220.21	38.490	.44052E-01
47940.	2.9919	103.80	95.881	.11202	221.19	38.449	.44305E-01
48205.	2.9944	104.37	96.409	.11259	222.18	38.408	.44549E-01
48470.	2.9970	104.94	96.941	.11315	223.16	38.368	.44795E-01
48738.	2.9995	105.51	97.475	.11372	224.15	38.326	.45042E-01
49006.	3.0021	106.08	98.013	.11429	225.15	38.285	.45290E-01
49277.	3.0046	106.66	98.553	.11486	226.14	38.243	.45540E-01
49548.	3.0071	107.24	99.096	.11544	227.14	38.202	.45791E-01
49821.	3.0097	107.82	99.643	.11602	228.14	38.159	.46043E-01
50096.	3.0122	108.40	100.19	.11660	229.14	38.117	.46297E-01
50372.	3.0148	108.99	100.74	.11718	230.15	38.075	.46552E-01
50649.	3.0173	109.58	101.30	.11777	231.16	38.032	.46809E-01
50929.	3.0198	110.17	101.86	.11836	232.17	37.989	.47067E-01
51209.	3.0224	110.77	102.42	.11895	233.18	37.946	.47326E-01
51491.	3.0249	111.37	102.98	.11954	234.20	37.902	.47587E-01
51775.	3.0275	111.97	103.55	.12014	235.21	37.858	.47849E-01
52060.	3.0300	112.58	104.12	.12074	236.23	37.815	.48113E-01
52347.	3.0325	113.19	104.69	.12134	237.26	37.770	.48378E-01
52635.	3.0351	113.80	105.27	.12194	238.28	37.726	.48645E-01
52925.	3.0376	114.41	105.85	.12255	239.31	37.681	.48913E-01
53216.	3.0402	115.03	106.43	.12316	240.34	37.635	.49182E-01
53509.	3.0427	115.65	107.02	.12377	241.38	37.591	.49453E-01
53804.	3.0452	116.27	107.61	.12438	242.41	37.545	.49725E-01
54100.	3.0478	116.90	108.20	.12500	243.45	37.500	.50000E-01
54100.	3.0478	-.86007E-11	108.20	.12500	0.	0.	.50000E-01

PROPELLANT 1 BURNED OUT
LOCAL PRESSURE MAX DETECTED
UPDATE ERROR 40 PROJECTILE STUCK
1C.44.10.UCLP, FA, TM160DC, 2.176KLNS.

DISTRIBUTION LIST

No. of Copies	Organization	No. of Copies	Organization
12	Administrator Defense Technical Info Center ATTN: DTIC-FDAC Cameron Station, Bldg 5 Alexandria, VA 22304-6145	5	Project Manager Cannon Artillery Weapons System, ARDC, AMCCOM ATTN: AMCPM-CW, AMCPM-CWW AMCPM-CWS M. Fisette AMCPM-CWA H. Hassmann AMCPM-CWA-S R. DeKleine Dover, NJ 07801-5001
1	Commander USA Concepts Analysis Agency ATTN: D. Hardison 8120 Woodmont Avenue Bethesda, MD 20014-2797		
1	HQDA/DAMA-ZA Washington, DC 20310-2500	2	Project Manager Munitions Production Base Modernization and Expansion ATTN: AMCPM-PBM, A. Siklosi AMCPM-PBM-E, L. Laibson Dover, NJ 07801-5001
1	HQDA, DAMA-CSM, Washington, DC 20310-2500		
1	HQDA/SARDA Washington, DC 20310-2500	3	Project Manager Tank Main Armament System ATTN: AMCPM-TMA, K. Russell AMCPM-TMA-105 AMCPM-TMA-120 Dover, NJ 07801-5001
1	C.I.A. OIR/DB/Standard GE47 HQ Washington, D.C. 20505		
1	Commander US Army War College ATTN: Library-FF229 Carlisle Barracks, PA 17013	1	Commander US Army Watervliet Arsenal ATTN: SARWV-RD, R. Thierry Watervliet, NY 12189-5001
1	US Army Ballistic Missile Defense Systems Command Advanced Technology Center P. O. Box 1500 Huntsville, AL 35807-3801	1	Commander U.S. Army ARDEC ATTN: SMCAR-MSI Dover, NJ 07801-5001
1	Chairman DOD Explosives Safety Board Room 856-C Hoffman Bldg. 1 2461 Eisenhower Avenue Alexandria, VA 22331-9999	1	Commander U.S. Army ARDEC ATTN: SMCAR-TDC Dover, NJ 07801-5001
1	Commander US Army Materiel Command ATTN: AMCPM-GCM-WF 5001 Eisenhower Avenue Alexandria, VA 22333-5001	4	Commander US Army Armament Munitions and Chemical Command ATTN: AMSMC-IMP-L Rock Island, IL 61299-7300
1	Commander US Army Materiel Command ATTN: AMCDRA-ST 5001 Eisenhower Avenue Alexandria, VA 22333-5001	1	HQDA DAMA-ART-M Washington, DC 20310-2500
1	Commander US Army Materiel Command ATTN: AMCDE-DW 5001 Eisenhower Avenue Alexandria, VA 22333-5001	1	Commander US Army AMCCOM ARDEC CCAC ATTN: SMCAR-CCB-TL Benet Weapons Laboratory Watervliet, NY 12189-4050

DISTRIBUTION LIST

No. of Copies	Organization	No. of Copies	Organization

3	Commander
	US Army ARDEC
	ATTN: SMCAR-MSI
	    SMCAR-TDC
	    SMCAR-LC
	    LTC N. Barron
	Dover, NJ 07801-5001
		1	Commander
			US Army Communications -
			  Electronics Command
			ATTN: AMSEL-ED
			Fort Monmouth, NJ 07703-5301

7	Commander
	US Army ARDEC
	ATTN: SMCAR-LCA
	    A. Beardell
	    D. Downs
	    S. Einstein
	    S. Westley
	    S. Bernstein
	    C. Roller
	    J. Rutkowski
	Dover, NJ 07801-5001
		1	Commander
			CECOM R&D Technical Library
			ATTN: AMSEL-M-L (Report Section)
			    B.2700
			Fort Monmouth, NJ 07703-5000

3	Commander
	US Army ARDEC
	ATTN: SMCAR-LCB-I
	    D. Spring
	    SMCAR-LCE
	    SMCAR-LCM-E
	    S. Kaplowitz
	Dover, NJ 07801-5001
		1	Commander
			US Army Harry Diamond Lab.
			ATTN: DELHD-TA-L
			2800 Powder Mill Road
			Adelphi, MD 20783-1145

4	Commander
	US Army ARDEC
	ATTN: SMCAR-LCS
	    SMCAR-LCU-CT
	    E. Barrieres
	    R. Davitt
	    SMCAR-LCU-CV
	    C. Mandala
	Dover, NJ 07801-5001
		1	Commander
			US Army Missile Command
			ATTN: AMSMI-RX
			    M.W. Thauer
			Redstone Arsenal, AL
			35898-5249

3	Commander
	US Army ARDEC
	ATTN: SMCAR-LCW-A
	    M. Salsbury
	    SMCAR-SCA
	    L. Stiefel
	    B. Brodman
	Dover, NJ 07801-5001
		1	Commander
			US Army Missile and Space
			  Intelligence Center
			ATTN: AIAMS-YDL
			Redstone Arsenal, AL
			35898-5500

1	Commander
	US Army Aviation Systems
	  Command
	ATTN: AMSAV-ES
	4300 Goodfellow Blvd.
	St. Louis, MO 63120-1798
		1	Commander
			US Army Missile Command
			Research, Development, and
			  Engineering Center
			ATTN: AMSMI-RD
			Redstone Arsenal, AL
			35898-5245

1	Director US Army Aviation Research and Technology Activity Ames Research Center Moffett Field, CA 94035-1099	1	Commandant US Army Aviation School ATTN: Aviation Agency Fort Rucker, AL 36360
		1	Commander US Army Tank Automotive Command ATTN: AMSTA-TSL Warren, MI 48397-5000
		1	Commander US Army Tank Automotive Command ATTN: AMSTA-CG Warren, MI 48397-5000

DISTRIBUTION LIST

No. of Copies	Organization
1	Project Manager Improved TOW Vehicle ATTN: AMCPM-ITV US Army Tank Automotive Command Warren, MI 48397-5000
2	Program Manager M1 Abrams Tank System ATTN: AMCPM-GMC-SA, T. Dean Warren, MI 48092-2498
1	Project Manager Fighting Vehicle Systems ATTN: AMCPM-FVS Warren, MI 48092-2498
1	President US Army Armor & Engineer Board ATTN: ATZK-AD-S Fort Knox, KY 40121-5200
1	Project Manager M-60 Tank Development ATTN: AMCPM-M60TD Warren, MI 48092-2498
1	Director US Army TRADOC Systems Analysis Activity ATTN: ATOR-TSL White Sands Missile Range, NM 88002
1	Commander US Army Training & Doctrine Command ATTN: ATCD-MA/ MAJ Williams Fort Monroe, VA 23651
2	Commander US Army Materials and Mechanics Research Center ATTN: AMXMR-ATL Tech Library Watertown, MA 02172
1	Commander US Army Research Office ATTN: Tech Library P. O. Box 12211 Research Triangle Park, NC 27709-2211
1	Commander US Army Belvoir Research and Development Center ATTN: STRBE-WC Fort Belvoir, VA 22060-5606

No. of Copies	Organization
1	Commander US Army Logistics Mgmt Ctr Defense Logistics Studies Fort Lee, VA 23801
1	Commandant US Army Infantry School ATTN: ATSH-CD-CS-OR Fort Benning, GA 31905-5400
1	Commandant US Army Command and General Staff College Fort Leavenworth, KS 66027
1	Commandant US Army Special Warfare School ATTN: Rev & Tng Lit Div Fort Bragg, NC 28307
3	Commander Radford Army Ammunition Plant ATTN: SMCRA-QA/HI LIB Radford, VA 24141-0298
1	Commander US Army Foreign Science & Technology Center ATTN: AMXST-MC-3 220 Seventh Street, NE Charlottesville, VA 22901-5396
2	Commandant US Army Field Artillery Center & School ATTN: ATSF-CO-MW, B. Willis Ft. Sill, OK 73503-5600
1	Commander US Army Development and Employment Agency ATTN: MODE-ORO Fort Lewis, WA 98433-5099
1	Office of Naval Research ATTN: Code 473, R. S. Miller 800 N. Quincy Street Arlington, VA 22217-9999
3	Commandant US Army Armor School ATTN: ATZK-CD-MS M. Falkovitch Armor Agency Fort Knox, KY 40121-5215

DISTRIBUTION LIST

No. of Copies	Organization	No. of Copies	Organization
2	Commander Naval Sea Systems Command ATTN: SEA 62R SEA 64 Washington, DC 20362-5101	2	Superintendent Naval Postgraduate School Dept. of Mech. Engineering Monterey, CA 93943-5100
1	Commander Naval Air Systems Command ATTN: AIR-954-Tech Lib Washington, DC 20360	1	Program Manager AFOSR Directorate of Aerospace Sciences ATTN: L. H. Caveny Bolling AFB, DC 20332-0001
1	Assistant Secretary of the Navy (R, E, and S) ATTN: R. Reichenbach Room 5E787 Pentagon Bldg. Washington, DC 20350	5	Commander Naval Ordnance Station ATTN: P. L. Stang L. Torreyson T. C. Smith D. Brooks Tech Library Indian Head, MD 20640-5000
1	Naval Research Lab Tech Library Washington, DC 20375	1	AFSC/SDOA Andrews AFB, MD 20334
5	Commander Naval Surface Weapons Center ATTN: Code G33, J. L. East W. Burrell J. Johndrow Code G23, D. McClure Code DX-21 Tech Lib Dahlgren, VA 22448-5000	3	AFRPL/DY, Stop 24 ATTN: J. Levine/DYCR R. Corley/DYC D. Williams/DYCC Edwards AFB, CA 93523-5000
2	Comander US Naval Surface Weapons Center ATTN: J. P. Consaga C. Gotzmer Indian Head, MD 20640-5000	1	AFRPL/TSTL (Tech Library) Stop 24 Edwards AFB, CA 93523-5000
4	Commander Naval Surface Weapons Center ATTN: S. Jacobs/Code 240 Code 730 K. Kim/Code R-13 R. Bernecker Silver Spring, MD 20903-5000	1	AFATL/DLYV Eglin AFB, FL 32542-5000
		1	AFATL/DLXP Eglin AFB, FL 32542-5000
		1	AFATL/DLJE Eglin AFB, FL 32542-5000
2	Commanding Officer Naval Underwater Systems Center Energy Conversion Dept. ATTN: CODE 5B331, R. S. Lazar Tech Lib Newport, RI 02840	1	AFATL/DOIL ATTN: (Tech Info Center) Eglin AFB, FL 32542-5438
		1	NASA/Lyndon B. Johnson Space Center ATTN: NHS-22, Library Section Houston, TX 77054
4	Commander Naval Weapons Center ATTN: Code 388, R. L. Derr C. F. Price T. Boggs Info. Sci. Div. China Lake, CA 93555-6001	1	AFELM, The Rand Corporation ATTN: Library D 1700 Main Street Santa Monica CA 90401-3297

No. of Copies	Organization	No. of Copies	Organization
1	General Applied Sciences Lab ATTN: J. Erdos Merrick & Stewart Avenues Westbury Long Isld, NY 11590	1	Hercules, Inc. Radford Army Ammunition Plant ATTN: J. Pierce Radford, VA 24141-0299
2	AAI Corporation ATTN. J. Hebert J. Frankle D. Cleveland P. O. Box 6767 Baltimore, MD 21204	1	Honeywell, Inc. - MN64 2200 Defense Systems Division ATTN: C. Hargreaves 6110 Blue Circle Drive Minnetonka MN 55436
1	Aerojet Ordnance Company ATTN: D. Thatcher 2521 Michelle Drive Tustin, CA 92680-7014	1	Lawrence Livermore National Laboratory ATTN: L-355, A. Buckingham M. Finger P. O. Box 808 Livermore, CA 94550-0622
1	Aerojet Solid Propulsion Co. ATTN: P. Micheli Sacramento, CA 95813	1	Lawrence Livermore National Laboratory ATTN: L-324/M. Constantino P. O. Box 808 Livermore, CA 94550-0622
1	Atlantic Research Corporation ATTN: M. K. King 5390 Cheorokee Avenue Alexandria, VA 22312-2302	1	Olin Corporation Badger Army Ammunition Plant ATTN: R. J. Thiede Baraboo, WI 53913
1	AVCO Everett Rsch Lab ATTN: D. Stickler 2385 Revere Beach Parkway Everett, MA 02149-5936	1	Olin Corporation Smokeless Powder Operations ATTN: D. C. Mann P.O. Box 222 St. Marks, FL 32355-0222
2	Calspan Corporation ATTN: C. Morphy P. O. Box 400 Buffalo, NY 14225-0400	1	Paul Gough Associates, Inc. ATTN: P. S. Gough P. O. Box 1614, 1048 South St. Portsmouth, NH 03801-1614
1	General Electric Company Armament Systems Dept. ATTN: M. J. Bulman, Room 1311 128 Lakeside Avenue Burlington, VT 05401-4985	1	Physics International Company ATTN: Library H. Wayne Wampler 2700 Merced Street San Leandro, CA 94577-5602
1	IITRI ATTN: M. J. Klein 10 W. 35th Street Chicago, IL 60616-3799	1	Princeton Combustion Research Lab., Inc. ATTN: M. Summerfield 475 US Highway One Monmouth Junction, NJ 08852-9650
1	Hercules Inc. Allegheny Ballistics Laboratory ATTN: R. B. Miller P. O. Box 210 Cumberland, MD 21501-0210		
1	Hercules, Inc. Bacchus Works ATTN: K. P. McCarty P. O. Box 98 Magna, UT 84044-0098	2	Rockwell International Rocketdyne Division ATTN: BA08 J. E. Flanagan J. Gray 6633 Canoga Avenue Canoga Park, CA 91303-2703

No. of Copies	Organization	No. of Copies	Organization
1	Science Applications, Inc. ATTN: R. B. Edelman 23145 Cumorah Crest Drive Woodland Hills, CA 91364-3710	1	University of Illinois Dept of Mech/Indust Engr ATTN: H. Krier 144 MEB; 1206 N. Green St. Urbana, IL 61801-2978
3	Thiokol Corporation Huntsville Division ATTN: D. Flanigan R. Glick Tech Library Huntsville, AL 35807	1	University of Massachusetts Dept. of Mech. Engineering ATTN: K. Jakus Amherst, MA 01002-0014
2	Thiokol Corporation Elkton Division ATTN: R. Biddle Tech Lib. P. O. Box 241 Elkton, MD 21921-0241	1	University of Minnesota Dept. of Mech. Engineering ATTN: E. Fletcher Minneapolis, MN 55414-3368
2	United Technologies Chemical Systems Division ATTN: R. Brown Tech Library P. O. Box 358 Sunnyvale, CA 94086-9998	1	Case Western Reserve University Division of Aerospace Sciences ATTN: J. Tien Cleveland, OH 44135
1	Veritay Technology, Inc. ATTN: E. Fisher 4845 Millersport Hwy. P. O. Box 305 East Amherst, NY 14051-0305	3	Georgia Institute of Tech School of Aerospace Eng. ATTN: B. T. Zinn E. Price W. C. Strahle Atlanta, GA 30332
1	Universal Propulsion Company ATTN: H. J. McSpadden Black Canyon Stage 1 Box 1140 Phoenix, AZ 85029	1	Institute of Gas Technology ATTN: D. Gidaspow 3424 S. State Street Chicago, IL 60616-3896
1	Battelle Memorial Institute ATTN: Tech Library 505 King Avenue Columbus, OH 43201-2693	1	Johns Hopkins University Applied Physics Laboratory Chemical Propulsion Information Agency ATTN: T. Christian Johns Hopkins Road Laurel, MD 20707-0690
1	Brigham Young University Dept. of Chemical Engineering ATTN: M. Beckstead Provo, UT 84601	1	Massachusetts Institute of Technology Dept of Mechanical Engineering ATTN: T. Toong 77 Massachetts Avenue Cambridge, MA 02139-4307
1	California Institute of Tech 204 Karman Lab Main Stop 301-46 ATTN: F. E. C. Culick 1201 E. California Street Pasadena, CA 91109	1	G. M. Faeth Pennsylvania State University Applied Research Laboratory University Park, PA 16802-7501
1	California Institute of Tech Jet Propulsion Laboratory ATTN: L. D. Strand 4800 Oak Grove Drive Pasadena, CA 91109-8099	1	Pennsylvania State University Dept. of Mech. Engineering ATTN: K. Kuo University Park, PA 16802-7501

DISTRIBUTION LIST

No. of Copies	Organization	No. of Copies	Organization
1	Purdue University School of Mechanical Engineering ATTN: J. R. Osborn TSPC Chaffee Hall West Lafayette, IN 47907-1199		Cdr, USATECOM ATTN: AMSTE-SI-F AMSTE-CM-F, L. Nealley
1	SRI International Propulsion Sciences Division ATTN: Tech Library 333 Ravenswood Avenue Menlo Park, CA 94025-3493		Cdr, CSTA ATTN: STECS-AS-H, R. Hendricksen Cdr, CRDC, AMCCOM ATTN: SMCCR-RSP-A SMCCR-MU SMCCR-SPS-IL
1	Rensselaer Polytechnic Inst. Department of Mathematics Troy, NY 12181		
2	Director Los Alamos Scientific Lab ATTN: T3, D. Butler M Division, B. Craig P. O. Box 1663 Los Alamos, NM 87544		
1	Stevens Institute of Technology Davidson Laboratory ATTN: R. McAlevy, III Castle Point Station Hoboken, NJ 07030-5907		
1	Rutgers University Dept. of Mechanical and Aerospace Engineering ATTN: S. Temkin University Heights Campus New Brunswick, NJ 08903		
1	University of Southern California Mechanical Engineering Dept. ATTN: OHE200, M. Gerstein Los Angeles, CA 90089-5199		
2	University of Utah Dept. of Chemical Engineering ATTN: A. Baer G. Flandro Salt Lake City, UT 84112-1194		
1	Washington State University Dept. of Mech. Engineering ATTN: C. T. Crowe Pullman, WA 99163-5201		

Aberdeen Proving Ground

Dir, USAMSAA
ATTN: AMXSY-D
AMXSY MP, H. Cohen

USER EVALUATION SHEET/CHANGE OF ADDRESS

This Laboratory undertakes a continuing effort to improve the quality of the reports it publishes. Your comments/answers to the items/questions below will aid us in our efforts.

1. BRL Report Number_____Date of Report_____

2. Date Report Received_____

3. Does this report satisfy a need? (Comment on purpose, related project, or other area of interest for which the report will be used.)_____
_____
_____

4. How specifically, is the report being used? (Information source, design data, procedure, source of ideas, etc.)_____
_____
_____

5. Has the information in this report led to any quantitative savings as far as man-hours or dollars saved, operating costs avoided or efficiencies achieved, etc? If so, please elaborate._____
_____
_____

6. General Comments. What do you think should be changed to improve future reports? (Indicate changes to organization, technical content, format, etc.)
_____
_____
_____

	Name
CURRENT ADDRESS	Organization
	Address
	City, State, Zip

7. If indicating a Change of Address or Address Correction, please provide the New or Correct Address in Block 6 above and the Old or Incorrect address below.

	Name
OLD ADDRESS	Organization
	Address
	City, State, Zip

(Remove this sheet, fold as indicated, staple or tape closed, and mail.)